The SOUTHERN ECONOMIC JOURNAL

Volume XXVI | APRIL 1960 | Number 4

A JOINT PUBLICATION OF THE SOUTHERN ECONOMIC ASSOCIATION
AND THE UNIVERSITY OF NORTH CAROLINA

Volume XXVI, Number 4 APRIL 1960

The SOUTHERN ECONOMIC JOURNAL

A JOINT PUBLICATION OF THE SOUTHERN ECONOMIC ASSOCIATION
AND THE UNIVERSITY OF NORTH CAROLINA

Published Quarterly at Chapel Hill, N. C.

The Southern Economic Journal is published four times a year, in January, April, July, and October, at Chapel Hill, N. C. The subscription price is $6.00 per year, $1.50 for single copies.

All communications should be addressed to G. T. Schwenning, Managing Editor, The Southern Economic Journal, P. O. Box 1289, Chapel Hill, N. C.

Microfilm editions of this Journal are available to regular subscribers only and may be obtained at the completion of the volume by writing to University Microfilms, 313 North First Street, Ann Arbor, Michigan.

The articles in this Journal are indexed in *The International Index to Periodicals* and *Public Affairs Information Service*.

Second-class postage paid at Chapel Hill, North Carolina

Printed in U.S.A.

The SOUTHERN ECONOMIC JOURNAL

VOLUME XXVI | APRIL 1960 | NUMBER 4

CONTENTS

ANNOUNCEMENTS

1960 Annual Conference

The Thirtieth Annual Conference of the Southern Economic Association will be held on November 18–19, 1960, at the Atlanta Biltmore Hotel in Atlanta, Georgia.

Nominating Committee

President Fritz Machlup has appointed the following members of The Southern Economic Association to form a Nominating Committee to select officers for 1960–61: Professor George W. Stocking, Vanderbilt University, Nashville, Tennessee, Chairman; Professor Clement H. Donovan, University of Florida, Gainesville, Florida; Professor Howard G. Schaller, Tulane University, New Orleans, Louisiana; Professor Ernst W. Swanson, North Carolina State College, Raleigh, North Carolina; and Dr. McDonald K. Horne, Jr., National Cotton Council, Memphis, Tennessee.

Program for the Atlanta Meeting

If the program of the next Annual Meeting is to be duly representative of the research work now being undertaken at the colleges and universities of the South, the President of The Southern Economic Association must be informed. He requests Department Chairmen and the researchers themselves to write to him about the research in progress. Of course no commitment can be made concerning inclusion in the program of all papers offered for presentation, but a conscious effort will be made to fit them into the program if the subjects and the research techniques appear to be sound as well as interesting.

William H. Wesson, Jr.
Secretary-Treasurer

The SOUTHERN ECONOMIC JOURNAL

VOLUME XXVI April 1960 NUMBER 4

NOTES ON THE FOUNDING OF THE SOUTHERN ECONOMIC ASSOCIATION

TIPTON R. SNAVELY

University of Virginia

In an article published in the October, 1940, issue of this Journal the late Dean Walter J. Matherly wrote an account of the founding and development of the Southern Economic Association from 1927 to 1939. In a second article which appeared in the issue for October, 1952, Dean Matherly and Professor John B. McFerrin jointly made some revision of the original paper and extended the history of the Association to that time—thus commemorating the twenty-fifth anniversary of its existence. The two articles represent a contribution of great value in the early chronology of our beloved Association.

The purpose of these notes is to give some additional information on the problems that were encountered in the effort to found an organization of Southern economists and to establish a scientific publication. The facts presented are based primarily on correspondence of the writer during the year 1929–1930, while he served as Chairman of the Program Committee; in the year 1930–1931, when he became Vice-President in Charge of the Program; and in the year 1931–1932, when he served as President. It may be difficult to visualize and to appreciate in a strong and vigorous organization, now happily an adult, the struggle and hardship that beset its infancy. The fact that a new professional association of economists could be born and nurtured in the Southern States while the national economy was sliding into the worst depression in our history between 1929 and 1932, is something of a near-miracle.[1]

Inspiration for the establishment of a regional conference of professors of economics and business administration arose in the universities of the deep South. The initial movement has been well described in the article by Matherly and McFerrin. A nucleus on which to build had already come into existence in the local organization of economists in Atlanta and the surrounding area. However, when the idea was first presented to economists of Southern institutions who attended the meeting of the American Economic Association at Washington in December 1927, the response from some representatives in the upper tier of Southern States was not enthusiastic. Members of this group were inclined to feel that their interests were adequately served by the American Economic Association, and beyond that, they wondered whether a regional association in such a large area as the South comprised, might be adverse to the welfare of the national organization. As illustrative of the doubt that prevailed in the minds of some economists in the upper South, the writer would quote the following comments from letters which he received in 1930 and 1931. The letters related to topics for discussion on the programs and to the publication of a journal.

April 12, 1930—"Up to the present I have not taken any interest in the promotion of the Southern Economic Association, and I do not know that I am fully acquainted with its objectives."

April 15, 1930—"Replying to your letter of April 1, I beg to say that we have not been in a position here to take any very active place on the program of the Southern Economic Association, due to the very rigorous limit on our travel allowance . . . and the members have invariably indicated that they would prefer to attend the national meeting rather than the local meeting."

December 11, 1931—"Personally I have always been somewhat doubtful regarding the possibility of a virile Southern Economic Association . . . I suppose the next two or three years will have to decide whether the Association has

[1] There is a legend to the effect that only one commercial bank was founded in the United States in 1931. There were hundreds of bank failures.

The uncertainty hovering over the destiny of the Association and the precarious future of the Southern Economic Journal in its early issues would seem to justify placing the facts in a permanent record.

sufficient vitality to continue its career or whether it should be dropped."

To the third of these letters the writer replied on December 18, 1931, that while he "doubted the wisdom of such an organization when the subject arose some years ago," he had attended the second session in Atlanta and had become "very enthusiastic about the possibility of a meeting once a year at which some 50 to 100 Southern economists can come together and discuss problems of particular interest in the Southern States. The meetings since that time have confirmed my belief in the justification of the Association."

The writer was not present at the gathering of the small group in Atlanta on December 10, 1927, which declared the need for a Southern Association of Instructors in Economics and Business Administration. Also he did not attend the first meeting of the Southeastern Economics Conference which was held in Atlanta under the auspices of the local committee of the Atlanta Organization on November 9–10, 1928.[8] A formal program was prepared for this Conference and ten of the twelve papers offered were published in a small volume under the title, *The Industrial South*. In retrospect it may be said that considerable interest was engendered through the publication of this slender book in which the authors were from the South and all of the essays dealt essentially with Southern problems. The topics discussed included industrialization in the South, decentralization of industry, problems of banking and finance, taxation, electric power and water resources and problems of welfare in the cotton textile industry.

On November 28, 1928, the late Dean Edgar H. Johnson of Emory University wrote a letter to the author which read in part as follows: "Our Southeastern Economics Conference was more successful than we had expected. Forty-nine college professors registered as attendants. There were teachers from Mississippi, Alabama, Tennessee, Georgia, Florida and South Carolina." ... "In attempting this Conference it was believed that a good many would attend who would not make the longer trip to reach the National Association." ... "Our execution (sic) secretary was Mr. Mercer G. Evans and to him is due the major part of the credit for the enterprise." ... "It was voted that another conference be held in Atlanta and that the same local committee from the faculties of Agnes Scott, Emory, Georgia Tech, and Oglethorpe which planned this recent meeting should be asked to provide for the next one."

It is apparent that Dean Johnson was keenly interested in promoting an organization of Southern Economists. In the same letter he expressed the hope that the papers read at the Conference in 1928 might be published. He stated further that announcements were not sent out to the Virginia colleges by the Secretary since he "thought that your proximity to Washington would make you not disposed to come as far as Atlanta to a smaller meeting." The response from North Carolina was not favorable, he said, because "it seems that they have a State association and as many of them attend the National Association they did not feel like taking part also in a regional conference."

On December 1, 1928, the writer answered the letter of Dean Johnson in these words: "I am very much interested in the outcome of the Southeastern Economics Conference which you have described. You certainly had a splendid attendance and it is quite gratifying to the economists to know of the interest that was shown." ... "Our location is of course somewhat different from that of the institutions farther South. We regard ourselves, however, as distinctly a part of the South and I think we should like to belong to any association that might be organized to consider the economic problems of the Southern States. Since it has been voted to continue the conference for another year, I trust that we may have an opportunity to participate to the fullest extent possible."

In the same letter some suggestions were made in respect to topics for discussion and to members of the faculty of the University of Virginia who could participate in the next program. In the Spring of 1929 the writer accepted an invitation from Dean Johnson to read a paper on taxation at the Conference to be held on November 15–16 following. The Conference was held as planned, the attendance being slightly

[8] "The original Southern Association of Instructors in Economics and Business Administration with its officers disappeared and the Southeastern Economics Conference without officers other than the members of the local committee took its place."—Matherly and McFerrin, "The History of the Southern Economic Association, 1927–1952." This Journal, October 1952, p. 158.

larger than that in 1928, but the papers were not published.[3]

By action taken at this meeting it was "unanimously decided to create a formal organization"[4] through the election of a slate of officers and by the appointment of two committees—one to draw up a constitution and by-laws and the other to prepare a program. The Southeastern Economics Conference was changed to the Southeastern Economic Association. Walter J. Matherly was elected President, O. C. Ault, Vice-President, and Mercer G. Evans of Emory University, Secretary-Treasurer. Dean R. P. Brooks of the University of Georgia, one of the founders of the Association, was unable to serve as Chairman of the Program Committee and the writer was appointed in his place. The officers chose Atlanta as the place for the meeting in the autumn of 1930 and decided that the papers to be presented should show evidence of original research and that there should be a wide distribution of persons on the program.

Believing that the success of future meetings would depend upon the active participation of many individuals, the writer sent a letter on April 1, 1930, to the chairman of the department of economics in each of 77 colleges and universities of the South. The letter requested information concerning faculty members who were conducting research and would be interested in preparing a paper. Members of the Program Committee were urged to express their views on desirable topics for discussion. The response from most of the colleges and some of the universities revealed the paucity of economists on faculties who were engaged in research of any kind, or in research of sufficient importance to justify presenting the results to a professional audience. Quite a number stated that it would not be possible to send a representative to Atlanta because of the poor financial situation and the inability of the institutions to pay expenses of travel.[5]

There was a feeling by members of the Program Committee that in order to lift the prestige of the new Association both within and beyond the South, an effort should be made to persuade a few prominent economists from Northern universities to accept a place on the program. This objective was difficult to carry out. The idea of preparing an important paper and of traveling a long distance to appear before a small group of economists who were founding an organization as yet unknown, naturally had little appeal to men of high reputation in the North. Indeed there was no assurance that the papers would be published.

By letter on April 11, 1930, the writer invited Professor F. W. Taussig to "make a personal sacrifice" and give an address on the effect of the Smoot-Hawley Tariff on Southern industry. The letter stated further that the visit by Professor Taussig "would be very valuable to Southern economists," and that "your presence at this meeting would do much to stimulate the development of economists in Southern institutions," . . . "and the young Association would regard itself as extremely fortunate." He postponed his decision until late in the summer, but then wrote that the way did not seem clear to acceptance of the invitation. Professor William Z. Ripley was then invited but declined. Professor T. N. Carver of Harvard accepted an invitation and read a paper on "Economic Effects of the Growth of Manufacturing."

Other persons from outside the South who came to read papers were Professor James C. Bonbright of Columbia University whose subject was, "The Control of Public Utility Holding Companies," Albert H. Morrill, President of the Kroger Grocery and Baking Company, who discussed "The Chain Store Method of Distribution," Everett E. Edwards of the Bureau of Agricultural Economics in Washington, D. C., who spoke on the "Historical Background of the Present Situation in Southern Agriculture," and Carl H. Schmalz of Harvard, who had a paper on "The Independent Merchant Versus the Chain Store." The program for the meeting on November 14–15, 1930, represented on the whole the composite view of Southern economists. The principal topics considered were the Regulation

[3] In an historical note appended to the 1929 program it was stated that the Conferences of 1928 and 1929 were called to "encourage research by and joint discussion for those who are usually unable to attend the national conferences, and for the consideration of problems peculiar to the Southeastern States."

[4] Matherly and McFerrin, *op. cit.*, p. 159.

[5] Dean J. W. Bell of the University of Mississippi, a member of the Program Committee, wrote on October 20, 1930, that the "bank in which several of us carry our little savings has closed its doors," and that the "University of Mississippi does not pursue the liberal policy of paying the expenses of its faculty members to such meetings."

of Public Utilities, the Problems of Agriculture, the Industrial Revolution in the South and the Chain Store Movement.

It seems fair to say that the Convention of 1930 marked a turning point in the future of the Association. The papers were of a high order of merit and much enthusiasm was shown by the officers and members as a result of the larger attendance. Of the 167 persons who registered during the session, 67 were college or university professors, 29 had a professional interest in economics but were attached to business enterprises or government bureaus, and the remainder had no professional relationship in economics or business.[6] On November 18, 1930, the writer received a letter from Matherly, the outgoing President, expressing appreciation for the success of the program and stating that, "I believe the third annual session placed the Association on a firm foundation. I feel that we can look forward to a great future." In another letter of the same date the program was declared to be "by far the best yet!"

A noteworthy accomplishment of the 1930 convention was the adoption of a constitution and by-laws. A Committee had been appointed at the previous meeting, consisting of J. W. Scott of Alabama Polytechnic Institute as Chairman, to submit a proposed constitution and its report was presented at the final session on November 15, and approved unanimously. Before action was taken, however, one change was made in the report of the Committee, which had been circulated among the members. Article I of the original draft read: "The name of this Association shall be the Southern Economic Association." This involved a change in name from *Southeastern* to *Southern*. There was considerable opposition to the change, especially by the membership in the Atlanta area and the lower Southeast. Consequently the proposal was dropped before the constitution was adopted. A substantial number of members felt that if the territory of the Association were extended too far it would be difficult to maintain a closely knit organization and to obtain a good attendance at the annual conferences.

The question of the most appropriate name remained a live issue for the next two years. Previously there had been little expectation that the area included in the Association would reach beyond the Southeast proper, but more and more it was apparent that there was much interest on the part of institutions beyond the Mississippi River. Letters to and from the writer indicate that the situation became somewhat anomalous. The unofficial name *Southern* seemed (unconsciously perhaps) to be fixed in the minds of many persons. Soon after the Conference of 1930, the Secretary had printed a miniature "Handbook of Information," which contained a factual statement, the new constitution, a list of officers for the year 1930–1931 and a form of application for membership. The introduction began as follows: "The Southeastern Economic Association is an organization composed of persons interested in the study of economics and economic problems, particularly as they relate to industry and commerce in the Southeastern states," ... "The Association has no creed or platform: it defends no party and spreads no propaganda." It was stated further that professional meetings would be held every year, that the papers read at public meetings would be published, and that "other publications may be issued by the Association."[7]

Officers elected for the year 1930–1931 were Lee Bidgood, President; Tipton R. Snavely, Vice-President in Charge of Program; O. C. Ault, Vice-President in Charge of Membership; J. W. Martin, Vice-President in Charge of Research. M. H. Bryan was made Editor of Publications and Mercer G. Evans was elected Secretary-Treasurer. The writer had the task of preparing the program for the second year. Soon after the conference of 1930, Mercer G. Evans wrote, making certain suggestions for an improvement in the allotment of time to speakers and encouragement of discussion from the

[6] Appended to the program was the following historical note: "The first meeting of the Southeastern Economics Conference was held in Atlanta in November, 1928. About fifty-five professional economists were in attendance. The second meeting was held in Atlanta in November, 1929, with nearly a hundred economists attending. The Conferences were called by interested members of the profession to encourage research by and joint discussion for those who are usually unable to attend the national conferences, and for the consideration of problems peculiar to the Southeastern States." Responsibility for printing the program fell on the Secretary, Mercer G. Evans, who received full support and guidance from Dean Edgar H. Johnson.

[7] Membership was declared to be open to all persons "interested in furthering the application of economic study to economic problems." Only "nominal" dues of two dollars annually were required for membership.

floor. "I hope some way can be worked out," he said, "so that there will be, say, at least ten or fifteen minutes in which people will feel free to talk, will not feel that they are imposing upon the time of the succeeding meeting, or keeping everyone up too late." Thus far the Association had not followed a plan of holding section meetings concurrently.

Again an inquiry was made in respect to research being conducted by Southern economists and which might serve as a basis for assignment of papers.[8] When it was learned that the National Tax Association had decided to hold its annual conference in Atlanta on October 12–16, and planned to consider some phases of tax problems in the South, the meeting of the Southeastern Economic Association was set for October 16–17, and a joint session was scheduled on Friday morning. This proved to be a very useful session and the Fourth Annual Conference as a whole was most gratifying.

In the mean time measures had been taken to publish the papers of the meeting in 1930 as a volume of Proceedings. There was an acute awareness of the need for some medium of publication. The Editor of Publications, Malcolm H. Bryan of the University of Georgia, after having conducted negotiations with various publishers, accepted the bid of the McGregor Company in Athens. The volume was expected to appear in the early Spring and the writer postponed invitations for places on the program for the Fall conference in the hope that the appearance of the Proceedings would be helpful in attracting a few speakers of international standing. Publication though was delayed until the end of August.

Printed on attractive paper and in good type, the volume reflected much credit on the youthful organization. It was sold at the modest price of two dollars. Nevertheless the cost of $600 exceeded the estimate by $200 and proved to be a burden which left the Association reeling financially over the next two years. The Treasurer's report of October 15, 1931, showed that only $112 had been paid on the cost of printing the Proceedings, leaving a balance of $488 unpaid. Considering the fact that the amount of cash on hand was $35.83 and that the income from annual dues was about $225, the deficit owed the printer in Athens was a staggering blow.

Obviously it would be difficult if not impossible to publish the Proceedings of the session of 1931. As President for the year 1931–1932, the writer sought to find some means by which this might be accomplished. An unsuccessful effort was made at that time to persuade the publisher to reduce somewhat his charge for printing the Proceedings of 1930. Leading publishers in New York were approached in the hope that one of them might play the role of a good Samaritan and bear the expense of publication as a matter of goodwill. The replies were in the negative. Bids were asked from a number of companies in the South, but with disappointing results. The Duke University Press wrote that it had accepted more manuscripts than "we shall be able to publish this year." The terms offered by the University of North Carolina Press, based on a volume of 208 pages, seemed beyond the reach of the Association.[9]

The writer had urged Dean Lee Bidgood to secure bids from publishers in Birmingham. The offers received, though undoubtedly reasonable, meant an outlay in excess of $400, a figure which, considering the deficit, was beyond anticipated resources for several years. In his desire to be helpful Dean Bidgood persuaded the Bureau of Business Research of the University of Alabama to act as publisher. The offer of the Bureau was the most attractive that had been made, but Dean Bidgood added, perhaps as an afterthought: "Frankly, unless the Association has by this time paid all of its debts and has at least some money in the treasury we should not like to be connected with the publication of the new volume."[10]

Through the sale of the Proceedings of 1930 and other income, sufficient funds were at hand by November, 1931, to reduce the deficit. In

[8] On May 18, 1931, President Lee Bidgood wrote to Professor J. W. Martin proposing that a census of the research activities of members be taken as an annual thing. "Perhaps," he said, "this would stimulate membership also as those who are interested would like to have their data included in the report."

[9] The offer provided for a subsidy of $400, with 250 copies to be furnished the Association and a like number to be retained for sale by the Press.

[10] Letter to the writer, February 22, 1932. The offer of the Bureau at the behest of Dean Bidgood was exceedingly generous. "The University," he wrote, "will not charge the Association for overhead or labor of mailing, but only for the envelopes, postage incurred and cost of multigraphing and mailing circulars to libraries, advertising the Proceedings."

February, 1932, a report from the treasurer showed the amount owed to the McGregor Company as being $361.26. The net balance in the treasury was $213.65. The writer urged that an intensive campaign be made to increase the membership. In one or two states this movement met with a modicum of success, but because of the stringent financial conditions the total increase was small. The McGregor Company did not wish to undertake publication of the Proceedings of 1931 until the current obligation had been settled. The Association faced a real impasse. On May 27, 1931, the author wrote Mercer G. Evans as follows: "The financial situation is very discouraging. May I ask how much we shall owe the McGregor Company when another $50 has been paid? I presume that you might as well send Bryan another check after June first."

At this juncture there arose in the minds of several persons, more or less spontaneously, the idea of publishing an inexpensive quarterly in lieu of the Proceedings. The thought had been advanced before, but its realization had not been regarded as feasible. Following the Convention of 1931, the Editor of Publications wrote to suggest the desirability of undertaking the project in the coming year.

On February 9, 1932, the author sent a letter to Dean R. P. Brooks raising certain questions about a quarterly—whether it would be more costly than the Proceedings and whether it would be practicable in view of the amount of editorial work that would be required throughout the year. It was requested that the Editor, M. H. Bryan, submit in detail an estimate of the cost of a quarterly. In a letter to Bryan on February 20, 1932, the writer gave an opinion that we should "need at least fifty pages" for a magazine and "wondered whether you have given full regard to the difficulty of conducting a regular quarterly publication and all of the irksome duties involved in trying to have each issue appear at a regular time."

The Editor obtained an estimate of $256 a year for 300 copies of a quarterly journal of 32 pages. He thought that if the Association would keep up its membership such an outlay could be met without fear of default. He took the first step by inviting the McGregor Company to submit a "dummy" of the proposed journal, the format of which bore similarity to the Journal of today. It asserted that the "Southeastern Economic Journal is published with two objects: first to serve as a clearing house for material of interest and significance chiefly to the South; and second, to encourage, among Southern economists, the research which is becoming increasingly necessary to the solution to the South's problems." Copies of the "dummy" were sent to the officers for their opinion and preference as between the Proceedings and a quarterly.

Arguments in favor of a quarterly were cogently summarized as follows:[11]

First, the journal would permit publication of two or three articles each time plus book reviews and other items.

Second, it would permit publication of papers not read at annual meetings.

Third, it would without offense make possible the selection of articles of superior quality and the omission of those not deserving of publication, "either because of quality or because in many instances they lack particular regional application."

Fourth, a journal appearing four times a year would arouse considerably more interest among members and a greater response from libraries than would a proceedings.

The writer sent a letter to members of the Executive Committee requesting a decision and giving his opinion that the proposal for a journal was "worth undertaking," that the "dummy" was "quite attractive" and that the "quarterly offers many advantages over the annual publication of the Proceedings." In this and other letters it was urged that a special effort be made to obtain ten or fifteen subscriptions to the journal from each State at the rate of $3 or $4 per person. If this were done publication could begin with an issue in the late Spring or Summer and in one or two years many outside subscriptions might be expected.

Two members of the Executive Committee, writing independently, used identical language, namely, that a quarterly journal was clearly "*out of the question*," until the membership and support of the Association had been built up to the proper point. In the mind of one member, the Association could not function effectively with fewer than 350 or 400 active partici-

[11] Letter from Bryan to the author, February 22, 1932.

pants. The other persons on the Committee much preferred a journal as soon as the finances of the Association would permit. J. W. Martin, of the University of Kentucky, wrote: "I think fairly numerous subscriptions might be expected in the course of a year or two from the outside if it can be put over in the meantime."[12] On March 5, 1932, the author wrote Walter J. Matherly about a journal as follows: "After having reviewed the matter as fully as possible, I have come to the conclusion that, if we can increase the membership of the Association sufficiently to obtain $200 or $300 in funds, we should be justified in making the experiment."

The response to the author's plea for a campaign in each state that might add ten or fifteen membership subscriptions was virtually a complete blank. One member replied that he had no idea whether he could get additional subscriptions in his state if a journal were published. He advised "after thoughtfully scanning the financial situation of the Association, and the general business condition," that publication be delayed until the debt could be cleared up and a small surplus be accumulated in the treasury. Otherwise, he observed, "I am inclined to think it likely that the organization will go to pieces on our hands, with a large deficit." But regardless of his doubts about the ability to publish a journal at the total cost estimated, he added the comforting words, "whatever you decide, I shall loyally support."

An effort was made to hold a meeting of the Executive Committee in Atlanta on March 27, 1932, but this was prevented by conflicting engagements. Mercer G. Evans informed the Committee that sufficient funds were in the treasury to cover the cost of at least two issues of a quarterly and he felt that the beginning of publication at once would encourage sales of the 1930 Proceedings and would probably encourage memberships, thereby aiding in the reduction of the deficit. The matter resolved itself into a question of when a journal should be undertaken.

There was a strong desire to start forthwith and Bryan reluctantly agreed to serve as Editor, but the spectre of the deficit loomed as an obstacle to immediate action. There was much pessimism not only over the financial condition of the Association, but also over the general outlook for business. Times were even harder than they had been in the previous year. People were curtailing rather than increasing their responsibilities. The McGregor Company was pressing for payment and on May 21, 1932, the Secretary-Treasurer sent a remittance of $200. He was trying valiantly to raise another $50 and in a letter of May 27, 1932, the writer approved a payment of this amount. Publication of the journal was postponed until after the annual meeting on November 11–12.

One result that grew out of the interchange of opinion on a proceedings versus a quarterly was to crystallize opinion on the name of the Association. Members of the Executive Committee and former officers realized that if a journal were published it would need wide circulation and that the title *Southern* would have a broader appeal than would *Southeastern*. Sentiment for a change probably arose in part from the appearance of the "dummy" journal. Walter J. Matherly wrote: "Bryan sent me a copy of the dummy journal. I like the proposed arrangement very much. I am inclined to agree with Bryan that we ought to designate the journal as the Southern Journal and that we ought possibly to change the name of the Association to the Southern Association."[13]

At the annual meeting in 1931 the author had brought up the matter and in letters to members had strongly suggested the desirability of a change. On November 5, 1931, Dean James B. Trant responded: "I am inclined to think that the Southern Economic Association is a more desirable title than the present name." Dean Bidgood wrote that he was heartily in favor of the change.[14] Dean Robert H. Tucker stated that he saw no good reason why the name should not be changed, "since, as you suggest, the Association is now representative of practically all the Southern States."[15] Mercer G. Evans wrote: "Concerning the change in name of the Association: my own impression is that we are having a hard enough time to include the Southeast, and that we ought to wait until we have gotten on our feet in this section before we imply an expansion of our coverage. But I will not be dogmatic about it!"[16] In a letter written on October 28, 1932, to

[12] Letter to the author, February 13, 1932.

[13] Letter to the writer, March 21, 1932.

[14] Letter of October 31, 1931.

[15] Letter of November 10, 1931.

[16] Letter of November 4, 1931.

Mercer G. Evans, the writer stated: "By the way, I feel that we should, by all means, change the name of the Association to 'Southern Economic Association.' Will you not please put this item on the list of matters to be considered at our business meeting?" The change was duly made at the annual meeting on November 11–12, 1932.[17]

Although the conference was held in the depth of depression, the program reached a high level of professional discussion and despite the inability of most institutions to pay the expenses of delegates, the attendance compared favorably with that of the preceding year. Paid membership rose slightly from 73 to 77. The principal topics included on the program were Banking and Finance, Effects of the Depression on the Southern States, Taxation and Southern Agriculture, Social and Economic Problems of the South, and Economic Thought and Economic Policy in the South. Officers elected for the year 1932–1933 were James B. Trant, President; Emory Q. Hawk, Vice-President in Charge of Membership; J. B. Woosley, Vice-President in Charge of Program; J. W. Martin, Vice-President in Charge of Research; Mercer G. Evans, Secretary; R. P. Brooks, Treasurer.

At a meeting of the Executive Committee held on February 18, 1933, an Editorial Board was appointed consisting of Malcolm H. Bryan, Editor, and Abraham Berglund, A. S. Keister, Charles P. White, R. W. Bradbury, Associates. The Committee voted to publish three issues of the quarterly Journal prior to the next annual meeting on November 10–11, that the Journal should be known as the *Southern Economic Journal* and that the first issue should appear in either March or April. Arrangement was made with the publisher to cancel one-sixth of the floating indebtedness with the publication of each of the first six issues of the Journal. Mercer G. Evans wrote in respect to the meeting of the Committee: "I was impressed that we did a good deal to set the Association on its feet and to get it more definitely on the way."[18]

Among the resolutions passed at the meeting of the Executive Committee was a motion offered by Dean R. P. Brooks providing for the appointment of a committee to consider the incorporation of the Association. The committee reported favorably to the Executive Committee on November 9, 1933, and the Secretary was instructed to arrange for the incorporation under conditions of least cost. By another resolution the office of attorney for the Association was created.

The goal of publishing three issues of the Journal in 1933 was not attained. The lack of funds made this impossible, and in a letter to the Editor on October 5, 1933, the writer approved the delay in the appearance of the first issue as follows: "I think your point of view concerning the proper time for beginning the Journal is well taken, since, like yourself, I believe that we should endeavor not to have any interruption in its course later on." The first issue consisting of one article, a foreword by the Editor, and the program of the next annual meeting, appeared in October. It was sixteen pages in length. In the minutes of the Executive Committee at a meeting held on November 9, 1933, the Editor reported that dues were being paid too slowly to permit publication of more than one issue. The total cost of the first issue was about $50. The Editor estimated the total cost of publishing the Journal on a quarterly basis at between $350 and $600 a year. At this meeting the Treasurer announced that the deficit incurred through publication of the Proceedings of 1930 had been settled in full by a cash payment of $100.[19]

Officers elected at the Conference of 1933 were R. P. Brooks, President; A. S. Keister, J. W. Martin, T. C. Bigham, Vice-presidents; Mercer G. Evans, Secretary; T. L. Howard, Treasurer. A policy of rotating the annual meetings was considered at this Conference. Strong arguments were offered for shifting the meetings to other cities from time to time. It was felt that the current practice had resulted in the

[17] The year of 1935 cited as the date for the change in the article by Matherly and McFerrin is obviously a typographical error. See this Journal for October, 1952, p. 160. On November 17, 1932, the writer commented in a letter to Dean Bidgood, who was absent from the recent meeting: "You will note that we have changed the name.... I believe that I can report an excellent series of meetings. I am of the opinion that if we continue to show the same interest that has been evident in the past, we are on firm ground for substantial progress in the future."

[18] Letter to the writer, March 4, 1933. Also, minutes of the meeting.

[19] For a very brief account of the evolution of the Journal down to 1951-1952, see the *Foreword* in the issue of the Journal for October, 1952.

development of "delegate attendance." The Conference voted in favor of a plan of rotation.

For some time also there had been discussion of a proposal for the formation of a federation of the social science organizations in the Southeast, together with the publication of a joint periodical. Opposition to the proposal centered on the doubtful wisdom of joining a federation which would involve publication of a quasi-popular journal and the loss of separate identity of the Association and its Journal. At the meeting in 1932, however, sentiment in favor of the general principle of a federation prevailed and the Executive Committee was directed to proceed with negotiations as "appeared desirable to effect the organization." After having made some inquiry, the Executive Committee decided on November 11, 1933, that the project should await developments from outside the Association. The proposed federation never materialized.

In October 1933, Dean D. D. Carroll suggested that the Association hold its annual meeting of 1934 in the vicinity of the University of North Carolina and Duke. The writer, as a member of the Executive Committee, assured Dean Carroll that the idea had much appeal and that he would support such a change if a definite invitation should be extended.[20] Later the Officers of the Association selected Chattanooga as the first city for a meeting outside of Atlanta. They were motivated by the intense interest in the Tennessee Valley Project and wished to obtain a better acquaintance with the work of the Tennessee Valley Authority and its program of research. An appeal was made on this basis by the new Treasurer of the Association, T. L. Howard, who was an Executive Secretary of T.V.A. in charge of research.

The program for the Conference at Chattanooga was built around the theme, "The New Deal and the South." A. S. Keister, Vice-President in Charge of the Program, wanted especially to enliven the discussion on Saturday morning by scheduling a number of brief papers on the topic, "Rambling Reflections on the New Deal." These included money, agriculture, government finance and the individual. The purpose was to make a "sort of free-for-all finale in which we hope to draw a large number of the profs for discussion."[21] The session evoked much spirited criticism and good natured controversy.

The financial condition made but slight improvement in 1934, the result being that only two issues of the Journal were published in that fiscal year. The need for additional funds was deemed crucial, not primarily for the maintenance of the Association itself, but to finance the Journal. An official publication appeared more and more vital to the growth of the organization. The treasurer lamented that the "Association Treasury is badly in need of support. Anything that you can do to that end will be a great help. Names of prospective new members are particularly desirable."[22]

The second issue of the Journal appeared in January, 1934. It contained three articles and no book reviews or notes. It was 28 pages in length. The issue of August, 1934 (Volume 1, Number 3) had two articles and a book review. Two issues of approximately the same length were published for February and May, respectively, in 1935, and a third issue bearing no contents except the program of the meeting on November 7–9, was designated as Volume II, Number 2. Thus the success of the Journal was far from being established and its outlook for the future was problematical. It should be stated for the record that these issues were well-edited, attractive in style, and the articles carried in them were entirely worthy of a scientific publication.

When the Association met at Chapel Hill-Durham in 1935, Dean D. D. Carroll proposed that the Journal be made a joint undertaking of the Association and the University of North Carolina. His generous offer included authorization of a subsidy by the University of $1000 per annum toward the cost of publication.[23] A pro rata amount of the annual dues of members would be paid by the Association to cover subscription to the Journal and the University

[20] Letter to Dean Carroll, October 26, 1933. The action of Dean Carroll doubtless in part led to the passage of a resolution at the November conference providing for rotation of meetings in various cities.

[21] The author read a paper on "The New Deal and the Individual."

[22] Letter from T. L. Howard, April 5, 1934. Two days later he wrote: "It might be interesting to you to know that as Treasurer of the organization I have built up a little fund and have not allowed the account to slip backwards very much."

[23] This amount was increased to $2000 in 1948.

would assume responsibility for its management. From the standpoint both of the Association and the University this seemed to be a fortunate solution of the problem and the offer of Dean Carroll was adopted unanimously and with the deep appreciation of the membership.

Under the present arrangement a Board of Editors consists in part of appointees by the University and in part of elected representatives of the Association, the Managing Editor being appointed by the University. The first issue of the quarterly under the new plan was published in January, 1936 (Volume II, Number 3). It carried six major articles, book reviews, State news, personnel notes and a list of books received. It ran to 103 pages in length. In a small folder which was distributed in 1936 by the late D. Clark Hyde, Secretary, as an invitation to new members, it was stated that the Journal "presents a summary of current economic developments as well as a careful selection of the results of experience, research and investigation."

Through the plan devised by Dean Carroll the Journal was revised and enlarged to such an extent as to become "almost a new venture."[34] Yet in color and format there is even today much resemblance to the embryonic early issues. The "new" Journal also brought new impetus and life to the Association. The debt owed to Dean Carroll and the University of North Carolina is now one of long standing and has been compounded many times through the felicitous appointment of a Managing Editor. The success of the Journal from January, 1936, to the present day rests to a major degree on the highly competent effort of its Editor and Editorial Board. Certainly the Association is under the greatest obligation to Professor G. T. Schwenning for his brilliant and impartial service since 1936.[35]

The founding of the Southern Economic Association was *par excellence* a cooperative endeavor. The idea was conceived by men who were dedicated to their profession and who were interested in the development of the Southern economy. They believed that conditions were not conducive to an adequate discussion of problems belonging primarily to the South at the national meetings. They even ventured, falteringly, to inaugurate, at the bottom of the depression, a professional Journal which today holds a position of national and international importance. They have for their faith the liberal contribution which the Association has made to economic thought and economic policy.

[34] Announcement in the *Southern Economic Journal*, January, 1936, p. 1.

[35] The writer is in complete agreement with the judgment of Matherly and McFerrin that the late Mercer G. Evans contributed more than any other person to the founding and early development of the Association. He was elected Vice-President in Charge of the Program in 1934 and undoubtedly would have been elected President in 1935 had he not taken a government position in Washington. Evans received guidance and support from the late Dean Edgar H. Johnson of Emory University.

MONETARY-FISCAL POLICY AND THE GROWTH OBJECTIVE*

JAMES R. SCHLESINGER

University of Virginia

One of the disturbing features of the present decade has been the ever-strengthening tendency to relate all controversies, even those which embody primarily domestic issues, to the struggle between the Soviet bloc and the West—either in terms of direct rivalry or in terms of an alleged impact upon the underdeveloped nations. Something of this fate, it may be argued, has overtaken the subject of economic growth, which has come to be treated by various groups as a painless cure not only for the domestic questions of employment stabilization and social balance, but for all our strategic problems as well. Despite the considerable emphasis upon its international implications, however, it is primarily domestic considerations which have determined the political alignments on the growth issue.

In times past concern with economic growth represented a touchstone of conservatism. By what other method could society cope with the problem of ever increasing population which threatened to encroach on the means of subsistence? In addition, from the traditional conservative perspective, the necessity of growth provided justification for the unequal distribution of income and for savings, and implicitly suggested both the inherent wickedness and the disastrous consequences which would follow from the blunting of the incentives for entrepreneurs.[1] For similar reasons, reformers tended to soft-pedal the growth issue—arguing that, if any conflict did exist between growth and the objectives of a more stable economy or a fairer distribution of income, the latter were more important.

In recent years, however, as any brief survey of periodical literature will suggest, economic growth has become a byword of the political left,[2] and political conservatives have grown correspondingly defensive on the subject. This is not to say that the new gospel of growth has failed to influence circles nominally associated with the political right. It has noticeably penetrated certain citadels of modern Republicanism, previously known as the bastions of Wall Street. The Rockefeller Brothers Fund in a widely discussed[3] report which was published last year, urged the nation to project a growth rate higher than we have experienced in the past decade—in fact, higher than in the nation's history. Alfred C. Neal, president of the Committee for

* A paper presented at the Annual Conference of the Southern Economic Association, Jacksonville, Florida, November 20, 1959.

[1] Examine the contrasting views of Keynes and Schumpeter on this point. Keynes argued that the possibilities of additional growth were quite limited, consequently the incentives provided by the capitalist system were not only excessive in themselves, but by encouraging redundant savings served to reduce the national income (*The General Theory of Employment, Interest, and Money* [New York: Harcourt, Brace & Co., 1936], pp. 372–374). Schumpeter, on the other hand, held that the undermining of capitalist incentives was inhibiting the dynamic growth of the economy and helping to cripple the capitalist system (*Capitalism, Socialism, and Democracy*, 3d ed. [New York: Harper & Brothers, 1950], pp. 160–162).

[2] The use of the term "political left" should not be taken to imply that there is any substantial organized and indoctrinated group in the United States advocating radical change or that there is at present a bipolarization of political opinion as there was in the thirties. Despite the absence of a wide split, differences of tone and aspirations do exist, however, and it seems appropriate to the writer to use the commonsense meaning of the term in this case. The Democratic Advisory Council has been most vigorous in criticizing the administration for failing to achieve a more rapid rate of growth. Although it has been ignored by the party's Congressional leadership, it has been vigorously seconded by the AFL-CIO, as may be seen from the recent publication, *Policies for Economic Growth*, Publication No. 87, AFL-CIO, 1959. The Americans for Democratic Action, like the other groups, have called for a growth rate in excess of 5%. Among study groups, the National Planning Association has been most forceful in advocating more rapid growth, and has tended to argue that growth is the answer to the need for expanding our welfare, educational and defense programs and, at the same time, the expanded spending will provide that higher rate of growth.

[3] *The Challenge to America: Its Economic and Social Aspects*, Report of Panel IV of the Special Studies Project (New York: Doubleday & Co., 1958). Arthur Smithies in a commendatory review in the *Quarterly Journal of Economics*, August 1958, mentioned that one important aspect of the report lay in the fact that its authors were not men inclined to exaggerate the role of the government. A survey of the composition of the panel, however, despite the Rockefeller label, does not reveal any notable conservative bias on the part of its members.

Economic Development, argued in one of the organization's annual reports that "economic growth in the United States is one of the major weapons in the contest which is going on for the world."[4] Mr. Neal went on to suggest:

> It is not only for our own convenience and greater comfort that the economy of the United States must grow. Growth and better understanding of how to achieve it are essential if we are to carry on an adequate program of economic development in other areas of the world. This is part of the competitive struggle too. If the Soviet Union can gain dominion over the billion people who live in the non-committed areas of Asia, Southeast Asia, and the Near East, they will have won the battle for the world.[5]

Similar examples might be cited, but they would not, I think, vitiate the general proposition that the present emphasis on growth has come in the main from the political left. This, it will be suggested, has created a quandary for the proponents of growth, since the political left finds it harder to accept the costs of growth, which include a reduction of mass consumption standards.

I

Analysis of the new emphasis upon growth reveals, I think, that three separate strands of thought have coalesced to infuse the rather dry growth statistics with substantial political appeal: (1) the growth models, (2) the employment objectives of organized labor, and (3) the presumed relationship between economic growth and the Soviet threat. In practice, these sources tend to merge. It is clear, for example, that organized labor has adopted the growth models for its own purposes. Although any individual or group may endorse the growth objective for any combination of reasons, each of the separate sources may lead to different attitudes toward growth and consequently each will be analysed separately.

1. The early growth models represented an attempt to dynamize the Keynesian system. In the *General Theory*, which was couched in static terms, it was argued that consumption patterns in advanced economies were such that, coupled with limited investment outlets, attempted savings at full employment chronically tended to exceed investment. Consequently the economy rarely attained the full employment level. Confidence in the inevitability of stagnationist tendencies—at least at the then prevailing levels of income—was shaken by the postwar experience. The early growth models[6] of Domar and Harrod may be viewed as a revision of the stagnationist thesis in dynamic terms. The essence of the argument may be stated briefly. Since investment is a component of effective demand, the nation's economic capacity will grow continuously. Unless aggregate demand is to be insufficient to match aggregate supply, with consequent unemployment, investment itself must increase each year. Given the marginal propensity to consume and the capital ratio, the rate of growth required to maintain full employment can be stated precisely.[7] Investment would have to grow at a steady rate; consequently invest-

[4] Committee for Economic Development, *Annual Report*, 1957, p. 11. For a period of time the CED pursued this tack, publishing a fearsome set of papers under the invidious title, *Soviet Progress vs. American Enterprise* (New York: Doubleday & Co., 1958) and a somewhat alarmist supplementary paper by Michael Sapir, *The New Role of the Soviets in the World Economy* (CED, 1958). In fairness, it should be mentioned that the CED simultaneously published a factual study of American growth, *Economic Growth in the United States: Its Past and Future*, February 1958, and that recently it has been one of the few organizations attempting to bring order into the chaos of public discussion. The policy statement, *The Budget and Economic Growth*, April 1959, contains a lucid analysis of the growth problems, see especially pp. 8–19.

[5] *Annual Report, op. cit.*, p. 11.

[6] E. D. Domar, "Expansion and Employment," *The American Economic Review*, March 1947, XXXVII, and R. F. Harrod, *Towards a Dynamic Economics* (New York: Macmillan Co., 1948). Keynes himself was not unaware of the dynamic implications of his system. The early growth models may be viewed as an elaboration of his statement: "...a wealthy community will have to discover much ampler opportunities for investment if the savings propensities of its wealthier members are to be compatible with the employment of its poorer members.... But worse still. Not only is the marginal propensity to consume weaker in a wealthy community, but, owing to its accumulation of capital being already larger, the opportunities for further investment are less attractive...." (Keynes, *op. cit.*, p. 31).

[7] The simplest version of the growth mathematics, I can think of, is the following. At full employment, income (Y) must be equal to capacity (K). To remain at full employment

1. $\Delta Y = \Delta K$
2. multiplying both sides by $\Delta I/I$ and transposing

$$\Delta Y \times \frac{\Delta I}{I} = \frac{\Delta K}{I} \times \Delta I$$

$$\frac{\Delta I}{I} = \frac{\Delta K}{I} \times \frac{\Delta I}{\Delta Y}$$

ment outlets would be exhausted at an increasing rate. The long run outlook therefore was bleak; conscious effort was necessary to achieve the proper growth rate and avoid unemployment. Evsey Domar argued that high investment temporarily solved the employment problem but only at the cost of "even greater evils"[8] at a later date. Consequently he was anxious lest the prevailing growth rate was *too high*.

Although the economists intially concerned with the growth problem tended to be those previously worried about stagnation, in the years since the Korean War there has been a marked shift of emphasis in which the same models have been used to underline not the tendency for demand to lag, but rather the opportunity, nay the *necessity*, for expanding capacity. Characteristically the use of income models to project stagnationist tendencies has, in both the static and dynamic versions, run through two phases—a period of certainty followed by a wave of doubt. The original stagnationist hypothesis gave way in the late forties to the view that the nation had been saved first by pent-up demand and then by new defense preparations, so that the fear of deep-seated unemployment was transmuted into a plea for maximum production. A similar transformation has occurred in the case of the latter day stagnationist notion of the growth models in which a dire prophecy has become simply a tautological set of relationships. Gradually the issue whether the ever-growing requirements for investment outlets could permanently be satisfied has been transformed into the issue whether the economy is growing fast enough. Ironically, in this second phase the discussion has been cut away from its original Keynesian moorings so that the question, so incompatible with the stagnation hypothesis, is being asked whether there is not a shortage of savings and of capital in light of the enormous array of investment needs and outlets[9]—and whether we should not take steps to *encourage* savings and capital formation. Thus the use made of growth models in the current growth controversy has been altogether different from that which might have been expected from the original formulations. Domar's questions—are we growing too rapidly, is the savings ratio too high—have been inverted into the question: are we growing rapidly enough?

2. In light of its employment objectives, it should be plain why organized labor has seized upon the growth models. A characteristic of union pronouncements in recent years has been the view that the government must see to it that a specific growth rate is maintained in order to avoid unemployment. Experience with lagging growth and lagging employment during the recent recession tended to confirm the unions in their attitudes. (Unemployment in the union view *always* indicates a failure of government policy and *never* a distortion of the wage structure or of the wage-price mechanism other than "excessive profits.") But growth may be either intensive or extensive depending on whether it arises from the deepening of capital or the expansion of the labor force. From the discussion at the most recent convention of the AFL-CIO, when it was charged that the lagging growth rate had been inadequate to provide the needed expansion of jobs, it is clear that organized labor is concerned with growth in the extensive sense. For the unions the employment objective remains paramount and growth in *per capita* terms remains a secondary consideration. The growth models are, however, mainly concerned with intensive growth, and this difference is reflected in the fact that in the latter the growth rate depends upon the rate of investment and the capital ratio, whereas in the union model growth depends solely on the rate of spending.

3. Neither the growth models nor the employment objective would have been sufficient to rivet popular attention on the subject of growth

Since in equilibrium $\Delta I/\Delta Y$ is equal to $\Delta S/\Delta Y$, the marginal propensity to save, this implies that the proportionate growth of investment $(\Delta I/I)$ must be equal to the product of the reciprocal of the capital ratio, $(\Delta K/I)$, and the marginal propensity to save, $(\Delta S/\Delta Y)$, or what Domar calls σ and α, respectively.

[8] Domar, *loc. cit.*, p. 50. "It is very likely that the increase in national income will be greater than that of capacity, but the whole problem is that the increase in income is temporary and presently peters out (the usual multiplier effect), while capacity has been increased for good. So that as far as unemployment is concerned, investment is at the same time a cure for the disease and the cause of even greater ills in the future" (pp. 49–50).

[9] Thus Arthur Smithies, in arguing for selective controls on housing construction, states that "there has been a pronounced trend toward a way of living that is capital intensive in comparison with the alternative of greater concentration in cities. Whether or not this is a factor that should influence policy depends on the extent of total capital requirements in the years to come." ("Uses of Selective Credit Controls," *United States Monetary Policy*, The American Assembly, Columbia University, 1958, p. 78). In view of Smithies' earlier views, this may be especially significant.

were it not for the new pastime of surveying the relative growth rates of the United States and the Soviet Union to disclose how well we are doing in the Cold War.[10] Is there any logic behind this phenomenon? Presumably according to this view economic growth should enhance military capabilities, but why this is so is unclear. It seems likely that any war which engages us in the future will be either limited or, dreadful as it may be, nuclear. For limited warfare both super-powers have sufficient industrial capacity—the outcome is likely to depend upon military prowess or upon political intangibles. Nuclear wars are likely to be settled rapidly by the forces-in-being. Since economic capacity is only tangentially related to nuclear capabilities, economic progress cannot be much of a threat in this respect. The belief that Soviet growth poses a *strategic* threat reflects a characteristic American preoccupation with and exaggeration of the importance of the economic element in strategic matters. After all the Russians have us thoroughly alarmed at the present time with a GNP roughly one-third of our own, and in the period of greatest Soviet political success, 1945–49, the disproportion was far more striking.

Sometimes it is argued that the United States must achieve a higher growth rate because of the impression that it will have on those in the underdeveloped areas. This strikes me as a rather dubious hypothesis. It implies that the people in these areas are more interested in what is happening in the United States and in the Soviet Union than they are in domestic political developments or in what is happening on their own frontiers. It implies that for some reason the *present* growth rate in the United States with its high standards of living and provision of so much leisure time should be equal to the *present* growth rate of the Soviet Union with its forced draft economy and levels of living about one-sixth of those of our own population. After all, is there no income effect on savings and effort? To be sure if those in the underdeveloped areas are persuaded to compare present-day growth rates rather than present-day levels of living or growth rates in the most rapid period of American development, the Russians will have obtained a propaganda advantage, but it is really a minor advantage, and in any event there is little that we can do about it. It seems clear that, although the Soviet-American rivalry is the essential ingredient in the new public interest in growth, it is perhaps the most weakly based of the three.

II

Assuming that a higher rate of economic growth has been accepted as public policy, what contribution can monetary-fiscal policy make? Attaining more rapid growth is largely a question of increasing the rate of capital formation. Under full employment conditions greater investment activity requires increased savings which permits more capital funds to flow to industry. But the latter implies a constriction of consumer expenditures and a reduction of those funds destined to support immediate income and the current standard of living. The connection between monetary techniques and fiscal techniques and the growth rate may most effectively be demonstrated by stressing their mutual influence upon the flow and usage of capital and income funds, i.e., the chief aggregative variables.

These relationships have emerged from the discussion by economists of the problem of *coordination* of monetary and fiscal policy. Parenthetically it may be observed that these discussions have been valuable not only because of their bearing on the growth question but be-

[10] Last fall Allen W. Dulles, the Director of the Central Intelligence Agency, made this statement before a Congressional committee: "If the Soviet industrial growth rate persists at 8 or 9 per cent per annum over the next decade, as is forecast, the gap between our two economies by 1970 will be *dangerously narrowed* unless our industrial growth rate is substantially increased from the present pace" (*The New York Times*, November 14, 1959, p. 1. Italics mine). When questioned by Senator Javits as to what he meant by "dangerously," Dulles replied, "the amount they would have available for military ends would compel us to put up even more than we have today," (*ibid.*, p. 2).

It is arithmetically obvious that Soviet progress more rapid than our own means that the gap will be narrowed, but why is this dangerous? There is a defect in Dulles' logic. If the Soviet economy continues to grow (and we can do little about that) and if increased output is devoted to military purposes, then presumably the amount we "would have to put up" *would increase irrespective of the speeding up of our growth rate* since our defense preparations must be considered a function of Russian military spending rather than our growth rate. Under these circumstances the proportion of American output devoted to national security would tend to rise. This might be uncomfortable, but surely it is not dangerous, unless it is hypothesized that the public would be unwilling to make the necessary sacrifices. This is not my belief.

cause they have underscored the essential unity of economic analysis. This has been a healthy development, for the widespread public impression that economists speak with conflicting voices has weakened the influence of economic analysis on public policy. The seeming division of economists into *analytical* camps over differences which were at base *policy* questions may be ascribed to the separate historical development of the monetary and fiscal tools. Although some economists may prefer on the basis of value judgments to emphasize fiscal policy, while others would prefer monetary policy, the connection between the two instruments can be ignored by none. Fiscal policy works through its influence on monetary conditions, while the tone of monetary policy is determined by the fiscal situation.

Monetary policy, if it is to be noninflationary, is neutral with respect to the rate of growth. It does not add to the supply of capital funds, but simply transmits the supply made available from other sources. The function of monetary policy is to provide sufficient liquidity so that the capital funds made available by acts of saving, either individual, corporate, or public, are absorbed by those who spend from borrowed sums. The function of fiscal policy is more dramatic—it determines *the relative availability* of income and capital funds and thus may influence the growth rate. Since taxation absorbs some income funds it may add to the supply of capital funds, unless its effect is offset by the release of income funds through government expeditures. Normally the fiscal mechanism tends to convert capital funds into income funds—that is, on balance, to absorb funds which would otherwise have been saved and thus made available for capital formation and to release funds which are spent on current goods and services. The impact of the fisc on the supply of capital funds, however, depends upon the tax structure, the expenditure pattern, and the overall relationship between receipts and expenditures. The greater the tendency for taxation to absorb income as opposed to capital funds, the greater the tendency for the expenditure pattern to release capital as opposed to income funds, and the higher the level of receipts relative to the level of expenditures, the greater will be the available supply of capital funds. Since the role of monetary policy is the transmission of the available supply of capital funds, the more lenient it can then be.

Monetary policy is the handmaiden of fiscal policy; it neutralizes the impact of fiscal and other national policies by restricting the amount of spending from borrowed sums to the volume of capital funds available. Consequently if one desires a more rapid rate of capital formation and a relaxation of monetary policy, one logically must advocate fiscal measures which will absorb more or release less in the way of income funds.

Monetary-fiscal policy can be employed to achieve a higher growth rate. Public discussion should not be concerned with the question whether a higher growth rate is desirable taken by itself (of course, it is if everything else remains unchanged), but rather with the kinds of monetary-fiscal policies that spur higher growth rates and their implications. By stressing the connections between fiscal policy, monetary policy, and the rate of growth, the economist may help to clarify the true policy alternatives which confront the nation's decision-makers. The economist most truly performs his professional function when he points out inconsistencies existing between different parts of a policy program—more precisely, when he reveals the lack of correspondence between means and ends. A national program which advocates higher growth rates and a more lenient monetary policy *in association with* lower taxes on mass consumption groups, larger welfare programs, and greater expenditures on national security and foreign assistance is no less ludicrous than a national program based upon the postulates that greater federal spending leads to *depressions* or that even our present tax structure is crippling the economy by destroying incentives.

It is patently clear that in the long run a program of greater government expenditures of the usual type and reduced taxation is not consistent with more rapid growth or (if economic balance is to be retained) with the relaxation of monetary policy. On the other hand, greater expenditures do not lead to depressions, nor does a reduction of taxation necessarily spur growth.

No principle of aggregative economics needs more frequent reiteration than the simple notion that *ceteris paribus* a restrictive fiscal policy permits monetary ease and stimulates growth and that the opposite fiscal policy requires monetary stringency and curtails growth. By continual reiteration of the fact that we cannot have our cake and eat it too, economists may help to con-

centrate attention upon the real policy decisions which must be made bearing on the growth question.

III

Given the monetary-fiscal preconditions for more rapid growth, let us examine the prevailing attitudes on the subject. In Washington and in other parts of the country one increasingly fashionable school of thought, whose most prominent spokesman is Leon Keyserling, maintains that the growth rate can be increased simply through the use of monetary and fiscal policies which *spur* aggregate demand.[11] The basis of this belief is a sort of inversion of Say's Law which holds that demand creates its own supply. The comforting conclusion has been reached, that through various fiscal devices we can have larger welfare programs, lower taxes, expanded programs for national security, foreign assistance, education, and research and development—and, in addition, easy money, a more rapid growth rate, and expanded private consumption. The underlying inconsistencies for periods of high employment should be clear. The opportunities for increasing aggregate supply simply through the expedient of expanding demand are as occasional and as temporary as are substantial recessions. During periods of prosperity the volume of idle capacity is fairly limited and is restricted in the main to those industries against which consumer preferences have been shifting.

Much of the present discussion of growth involves a simple refusal to acknowledge that in this world we are frequently faced with the necessity of choosing between alternatives. In the economic realm we must tailor our desires to fit our capacities. With little consideration as to the willingness of the public to pay the costs, the Rockefeller Report reached the conclusion that the economy *ought to grow* at 5% a year,[12] a figure which has now become part of the American folklore and the magic number of American politics. It was argued, with great logic if not much penetration, that "even with the 4 per cent of growth, our capacity would be far below our desirable objectives—which is to say below our aspirations."[13] Aside from the moderation of economic fluctuations, the report was rather skimpy, however, in its discussion of the *means* of achieving the desired growth rate. Elimination of periods of recession and unemployment appears to be a standard item in all growth programs. No attention is paid to the substantial body of evidence that suggests that it is during the periods of recession and recovery that the most rapid increases in productivity occur. Can heavy investment activity take place without generating instability; can progress be disassociated from periods of recession during which the fruits of the boom are absorbed? Most business cycle theorists have had their doubts on this score. The failure of growth proponents to consider such questions, makes one wonder whether they have firmly grasped the distinction between growth and stability.

Let me cite one final example of the unwillingness to consider the relation between means and ends save in terms of exhortation. The Democratic Advisory Council has argued that "we must have a rapidly growing economy to support the inevitably mounting costs of any adequate national defense, to supply the sinews of an effective foreign policy, and to make reasonable progress in the living standards of our people."[14] The issue of means is dismissed with this *ex cathedra* pronouncement: "a 5 per cent annual growth rate . . . is moderate in terms of our new technology. We could do even better."[15] The old political refrain, "there'll be pie in the sky, by and by" has at long last been made respectable by growth extrapolation. The Council has indicated a vast array of domestic improvements, falling under the heading apparently of "reasonable progress," which will be made possible by a 5% growth rate. After the enumeration of these goals only a killjoy could oppose growth.

[11] Mr. Keyserling has presented his views in a number of letters and articles appearing in *The New York Times* and the *Washington Post* and *Times-Herald*. A more complete picture may be found in his testimony before the Joint Committee, *January 1957 Economic Report of the President*, Government Printing Office, 1957, pp. 162–168 or in a recent article, "Goals for Full Prosperity," *The New Leader*, October 12, 1959, pp. 12–15.

[12] *Op. cit.*, pp. 71–73.

[13] *Ibid.*, p. 72. The report goes on to conclude that "we can afford the defense programs essential for survival. In doing so, however, unless we achieve a 5 per cent growth rate, we shall have to hold back otherwise desirable expenditures in the government field and keep the growth of private expenditures below a level commensurate with our aspirations" (p. 73).

[14] "The Democratic Task During the Next Two Years," A policy Statement by the Democratic Advisory Council, *The Democratic Digest*, January-February, 1959, p. 15.

[15] *Ibid.*, p. 15.

Not to be outdone, the Republican party has recently produced a report by one of its task forces on long-range policies which urges a growth rate of 4%. Apparently the Republicans will give the public what it wants, without going to the extreme of adopting a wild and impossible goal which would hardly be fitting for a party of caution and conservatism.

Public discussion of growth has run largely in terms of demand, of the desirability of more. "If we are to cut bigger slices," as Walter Lippman says, "we need a bigger pie." Under these circumstances the price that must be paid for growth in the form of reduced usage of resources for consumption is ignored. But the failure to calculate the balance between ends and means involves certain aspects on the supply side as well. The AFL-CIO has been appealing for a permanent reduction of the work week under the Wages and Hours Act of some 12½%; clearly any such action would substantially lessen chances of obtaining the rate of economic growth that organized labor demands.[10] Nothing, perhaps, more clearly illustrates that for organized labor growth is a secondary objective useful to reinforce its employment goals, useful for needling an administration which it regards as hostile, but not of primary importance in itself. Similar schizoid tendencies on the growth issue are exhibited by or in behalf of other producer groups. In the farm sector, we have been unwilling to permit enormous increases in productivity to be reflected in terms of prices and production. Many of those in Congress who have been most enthusiastic about growth have been conspicuously reluctant to recognize that more of the nation's resources are tied up in agriculture than is necessary and that steps taken to further the rapid transfer of resources out of agriculture would contribute markedly to economic growth. Numerous illustrations of a similar vein are offered by protectionist policies. Over the years the nation has attempted to provide economic security for producer groups in ways which restrict the growth of total output.

IV

In striking the balance among several national economic objectives, it is necessary at the outset to recognize that to some extent they conflict with each other. The price of economic stability or of an equitable distribution of income and wealth may be reduced growth. In the United States we have placed great emphasis upon laws and private associations which protect the bargaining power, the privileges, and the safety of different classes of producers. Perhaps less defensibly outright featherbedding schemes are permitted. Nevertheless the concern with stability and equity does reflect the contemporary values of the American society; it appears doubtful that we will lightly abandon these values and replace them with a single-minded pursuit of economic growth. This, we are informed, is the age of the organization man, of the lonely crowd, of the affluent society. It has also been called the age of the goofoff. These descriptions do reflect, no doubt, a change in our basic values. On all sides the social virtues of adjustment, cooperativeness, and the quiet life are preached in the place of the old time virtues of hard work, ambition, and thrift. We have learned to view askance the single-mindedness and drive of the hard-nosed businessman of yesteryear.

A society which uses a substantial proportion of productivity gains to increase leisure and in which the main social goal is to decrease both the burdensomeness of work and the energy expended on the part of the labor force (broadly construed) is likely to have a slower growth rate than a society with different goals, irrespective of the fiscal measures employed. Perhaps the very emphasis on fiscal devices to achieve a higher growth rate reflects our unwillingness to come to grips with the problem of hard work. Much has been said, for example, about additional expenditures on education as laying the foundation for economic growth, but what use are such expenditures when the educational system has been dominated by a doctrine which is sentimental foolishness, is characterized by shoddy standards, and seeks to instruct an apathetic student body which has learned to be alert only to the main chance. And in the final analysis, is it not probable that the fiscal meas-

[10] By citing organized labor, I should not be taken to imply that its impact on supply conditions is any worse than that of other groups of producers. For the unions, any attempt to limit labor supply must take the form of open negotiation or political action—and it is therefore rather glaring. But featherbedding is probably more rampant in the white-collar trades where it is so much a part of accepted conduct that it is not even discussed, and may be so subtle that it cannot be recognized from outside. This suspicion is supported by the trends of employment in the white-collar and blue-collar trades.

ures which are adopted (rather than discussed) will reflect simply the society's basic ethos, and in the United States has this not become the comfortable life?

At the outset of the discussion it was mentioned that growth has become a slogan of the political left and that the present-day conservative has grown defensive on the subject. This is only partly true—insofar as it concerns the "new growth economics." The old-fashioned liberal with his zest for the market, his faith in the stimulative powers of 'a free field and no favors' undoubtedly still believes that the opportunities for growth are staggering and he, no doubt, retains his enthusiasm for economic progress. But he would see as the surest route to growth the removal of the impediments which have been placed in the way of the free flow of resources in the name of economic security. Such was the intent of A. G. B. Fisher when he wrote *The Clash of Progress and Security*[17] over twenty years ago. One particular observation of Fisher would, if anything, appear more meaningful in recent years than when he made it:

> It seems today more urgent than ever to disseminate a wide understanding of the economic conditions and implications of progress; the rate of material progress which we are able to maintain is seriously diminished by widespread ignorance of the character and adjustments which it demands.[18]

No doubt the older view of the market was romanticized. Nevertheless its underlying skepticism concerning the notion of painless growth which has once again become fashionable seems very much to the point. In the future, as in the past, more rapid growth will imply hard work, insecurity, the willingness to accept losses and most clearly of all, the willingness to reduce the demands of immediate consumption. It is a question how many of those on the political left have reckoned and are willing to pay the real costs of more rapid growth.

In the nation's capital, the rapid pace of Soviet industrial development has fostered a climate of opinion which has turned growth into a policy fetish. In the nuclear age, however, it is misleading to postulate a direct relationship between industrial capacity and military potential. It is probably true that the psychological impact of the American growth rate upon the future alignments of the underdeveloped world has been much exaggerated. Nevertheless, it is arguable that the United States would be in a better position were the rate of growth more substantial. Perhaps largely for psychological reasons it may be desirable that our advantages vis-a-vis the Soviet Union melt away as slowly as possible. Moreover the usual conservative economic reasons would justify a more rapid growth rate. The population is both growing and aging and in the years to come a smaller proportion is likely to be in the labor force.

Whatever the real advantages of more rapid growth, it is clear that although everyone in Washington is talking about the growth rate (to paraphrase Mark Twain), nobody is willing to do anything about it—in the sense of recognizing the costs that would have to be paid. The nature of the fiscal restraints which would be required to achieve a more rapid rate of growth is obvious. It may well be argued that this degree of fiscal restraint is politically unacceptable. If such be the case, it is desirable that the economist intrude into the discussion with the healthy reminder that in this world it is rare that any substantial goal may be achieved without imposing certain alternative costs upon the society.

[17] Allan G. B. Fisher, *The Clash of Progress and Security* (New York: Macmillan Company, 1935).
[18] *Ibid.*, p. 1.

RECENT DEPARTMENT OF LABOR STUDIES OF MINIMUM WAGE EFFECTS*

GEORGE MACESICH
Florida State University
AND
CHARLES T. STEWART, JR.
Chamber of Commerce of the United States of America

I. INTRODUCTION

Public policy decisions pertaining to the Fair Labor Standards Act (FLSA) are influenced by the U. S. Department of Labor cross-section studies on economic effects of increasing the federal minimum wage. In Congressional testimony on raising the current federal minimum wage from $1.00 to $1.25, the Department's studies are cited as evidence that employment increased or decreased only slightly as a result of past increases in the minimum wage.[1]

The influence of the studies has not been limited to matters of public policy. Indeed, some economists have stated that evidence presented in the past cross-section studies demonstrates the futility of marginal analysis and calls for new approaches to the theory of the firm.[2]

The purpose of this paper is to examine the consistency between the BLS data on minimum wage effects and economic theory. We do not propose to re-examine in detail the Department's past cross-section studies. This has been done elsewhere by Peterson.[3] The discussion is limited to an examination of the usefulness of the 1955–57 studies in gauging employment effects of the $1.00 minimum wage.[4] Section II summarizes the findings of the BLS studies. Section III examines a number of limitations of the BLS studies. Section IV discusses the implications of these studies for economic theory. Section V presents the conclusions.

II. SUMMARY OF 1955–57 BLS STUDIES

After the Fair Labor Standards Act was amended in August 1955 to provide a $1.00 minimum wage effective March 1, 1956, the Department of Labor's Bureau of Labor Statistics and Wage and Hour Division engaged in several studies to evaluate the wage and related economic effects of the higher minimum.

The full detail of the BLS studies cannot be reproduced here; a brief summary of the purpose and findings of the main reports may indicate the general pattern.[5]

Included in the studies were wage surveys in selected low-wage industries and in low-wage geographic areas. Field representatives of the BLS examined payroll and personnel records for periods before, immediately after, and about a year after the effective date of the minimum wage. The purpose was to ascertain the short-run and the longer term effects of the new minimum on average hourly earnings, wage structures, employment and work schedules.

* We are indebted for useful comments and suggestions to Y. Attiyeh, W. D. Fackler, E. H. Johnson and E. P. Schmidt.

[1] See for example Statements of George Meany, President, AFL-CIO; Stanley Ruttenberg, Director of Research, AFL-CIO; Eugene B. Sydnor, Jr. and H. B. DeVinny for Chamber of Commerce of the United States before the Subcommittee on Labor of the Senate Committee on Labor and Public Welfare on S. 1046 for Extension of Coverage and Increase in the Minimum Wage of the Fair Labor Standards Act, May 1959.

[2] Richard A. Lester, "Shortcomings of Marginal Analysis for Wage-Employment Problems," *American Economic Review*, March 1946, p. 76. For this and other citations see John M. Peterson, "Employment Effects of Minimum Wages, 1938–50," *Journal of Political Economy*, October 1957, p. 412 ff.

[3] John M. Peterson, *op. cit.*, p. 415 ff.

[4] U. S. Department of Labor, Wage and Hour and Public Contracts Division, *Studies of the Economic Effects of the $1.00 Minimum Wage*—"Effects in Selected Low Wage Industries and Localities" (Washington: Government Printing Office, January 1959). For purposes of brevity these studies hereafter will be referred to as the "BLS Studies."

[5] *Ibid.*, and U. S. Department of Labor, Bureau of Labor Statistics, "Studies of the Effects of the $1 Minimum Wage," BLS reports Nos. 111, 112, 113, 114-3, 114-4, 114-5, 114-6, 114-7, 114-9, 115, 116, *Monthly Labor Review*, May 1958, Vol. 81, No. 5, pp. 492–501 ("Effects of the $1 Minimum Wage in Five Industries"), July 1958, Vol. 81, No. 7, pp. 737–743 ("Effects of the $1 Minimum Wage in Seven Areas"), October 1958, Vol. 81, No. 10, p. 1137 ("Plant Adjustments to the $1 Minimum Wage").

The findings were that immediately following the introduction of the higher minimum, average hourly earnings rose, geographic and occupational wage differentials were narrowed. An increased proportion of workers was concentrated near the minimum wage, and relatively minor increases were found in the proportion of workers in the higher earning levels. In the longer term, wage rate adjustments tended to reverse some of the early effects, but in most instances the restoration of prior differentials fell far short in both absolute and relative terms.

In a majority of instances, the $1.00 minimum wage appeared to have little significant influence on unemployment, either in the short run or in the longer run. A small number of employers attributed a few of their discharges at the time of, and subsequent to the effective date of the new minimum, to the rate itself. In this connection, those discharged usually were adjudged to be either incompetent or unable to meet new production standards. This was true particularly with regard to piece rate workers.

A majority of plant and office workers in industries surveyed were on a 40-hour work week schedule. Where employees were on a longer work-week, however, employers indicated that more attention was being given to work flow to minimize overtime premium pay.

An integral part of the survey plan was an attempt by BLS to determine what non-wage actions were made or planned by employers in a number of low-wage industries to adjust to the higher wage costs. Management representatives interviewed in the majority of all plants, as well as in the majority of plants in each industry, reported some action taken in one or more of the selected areas of adjustments: they increased expenditures for machinery and equipment; changed plant layout or work procedures; discharged some employees; increased production standards; raised prices; or changed product lines.

III. LIMITATIONS OF THE DEPARTMENT OF LABOR CROSS-SECTION STUDIES OF SELECTED LOW-WAGE INDUSTRIES

It is fitting and proper that the Department of Labor should attempt to assess the impact of the federal minimum wage. The BLS studies constitute a move in the right direction. They obviously represent a considerable expenditure of time and effort. They provide some data which help to identify the areas of impact and permit a few guarded statements about the direction of resulting changes.

Unfortunately, most of the limitations of earlier studies on the effects of previous wage minima apply to the 1955–57 studies. While some improvements in presentation have been made, the same errors in conception and method have been repeated. As a result, the data are not as useful as they should be; and it is impossible to use them to gauge the net unemployment effects of raising the legal wage minimum. The data are better than no data at all, but not much.

A. Minimum Wage and Other Influences on Employment

The studies do not give adequate attention to isolating the minimum wage effects from other important influences. Nor do they attempt to measure all the influences of the minimum on employment.[6] No serious attempt is made to separate the effects of the minimum wage from influences of trend or of exogenous changes in the industry. We are told, for example, that between 1956 and 1957 employment in Southern sawmills with 8 or more employees declined.[7] But we are also told that "the extent to which the employment decline was due to the impact of $1.00 minimum or to the long-run economic factors operating within the industry, or an interaction between the two is not known."[8] How then is the reader to judge the effects of the $1.00 minimum? One useful piece of information is the trend toward and employment in plants not covered by the FLSA. Unfortunately, the studies have nothing directly to say on either the trend toward uncovered plants or employment in these plants.

The choice of the initial survey periods does not allow complete segregation of employment due to the new minimum. The BLS studies obtained data for the first pay period after the $1.00 minimum wage became effective and again a year later. These two dates, April 1956 and

[6] Employment effects are defined here, and implicitly defined in the BLS studies, as direct effects of higher minima in low-wage industries. The indirect effects through payroll changes, or changes in spending on non-labor inputs, on employment elsewhere, are excluded from consideration.

[7] U. S. Department of Labor, *Studies of the Economic Effects of the $1 Minimum Wage*—"Effects in Selected Low-Wage Industries and Localities," *op. cit.*, pp. 26–27.

[8] *Ibid.*, p. 27.

April 1957, are unobjectionable. Influences other than the new minimum affected the data to be sure, but such complications are unavoidable in comparisons over time. The base period, which served as a necessary frame of reference for measuring subsequent changes whether or not attributable to the new minimum, is more debatable. It was not the same period for all industries surveyed; for some it was February 1956; for others, April 1955, August 1955, and the last quarter of 1955. All of these base period dates except April 1955 introduce seasonal factors into the comparisons. In most cases, but not in all, the base period came after enactment of the new minimum in August 1955, and before the date at which it became effective: March 1956.

It is possible that employment and other operational characteristics of low-wage firms and industries in the base period reflected anticipatory reactions to the new minimum. Indeed, the BLS study reports such a reaction in the wooden container industry. The long-term decline in employment in this industry was interrupted between the date of enactment of the new minimum wage and February 1956. Employment rose 5% as mills produced for stocks in anticipation of the higher minimum. Employment then declined 3% between February and April 1956, and another 8% by April 1957.[9] Such a reaction is not suggested for the sawmill industry, nor mentioned in any of the other industries surveyed except seamless hosiery. In many of them, however, increased employment and output in the months between enactment and enforcement of the $1.00 minimum would have been equally reasonable.

Just as the base period may reflect above-normal employment levels, it may also reflect above-normal working weeks and overtime hours. The decline in April 1956 and after in employment, in average working week, in amount of overtime, may all exaggerate the effects of the new minimum because they may be measured from a somewhat inflated base. Information on plant inventories of final product as well as on trends in employment and hours in 1955, before the new minimum was passed, and before its passage was a foreseen conclusion, might shed light on the existence and magnitude of anticipatory reactions.

[9] *Ibid.*, p. 46.

B. Limitations of Classifications

The 1955–57 study is a distinct improvement over previous studies in one respect: it breaks down plants in the low-wage industries surveyed into three groups of approximately equal number—high-, medium- and low-impact groups respectively. The criterion used is the percentage increase in wage costs required to conform to the new minimum. In the southern sawmill industry, for instance, the high-impact group would have to increase average hourly earnings 22% or more to comply with the minimum; the medium-impact group would have to increase average hourly earnings 13 to 22%; and the low-impact group would have to raise average hourly earnings less than 13% to comply with the $1.00 minimum.[10] In some industries surveyed, the differences between impact groups are minor. The high-impact group in the cigar industry would have to raise wages 6% or more; the medium-impact group would have to raise wages 1 to 6%, whereas the low-impact group would have to raise wages less than 1%.

In judging the employment effects of the new minimum, it would be helpful to have a similar impact classification for changes in total manhours and for firms leaving, or newly entering, the industry during the survey period. It certainly seems plausible that the minimum wage would have a differential effect by impact group on total manhours and exit and entry rates, as well as on the number of employees in firms operating in all three survey periods. We have no basis for judging this point, since neither the classification nor the relevant data are available in the study.

Another classification of relevance to the employment effects of the minimum wage is the size of plant as measured by number of employees.[11] The BLS studies do give such a breakdown for plants with eight or more employees. They fail to indicate, however, the number of plants with less than eight, the trend in the number of such plants, and in their employment.

[10] *Ibid.*, pp. 8–9.

[11] It would be desirable to classify plants with similar products and markets. It would also be desirable to sub-classify the published data on wage and employment changes by product and market. Employment effects of the minimum wage are not isolated by a comparison of plants with dissimilar products and markets. These two limitations, as noted by Peterson, restricted the usefulness of past studies. They restrict the usefulness of the current study as well.

One method of adjustment to the minimum wage is avoidance, by reducing employment to less than eight, the minimum covered by the Fair Labor Standards Act. The very small size of most plants in several low wage industries indicates the feasibility of avoidance by reducing the number of employees or by split-ups. The available data will not permit us to judge the importance of this or other forms of avoidance as a method of adjustment.

C. Method of Survey

To observe the direct effects of the $1.00 minimum wage, wages and related data were obtained by BLS surveys of selected low-wage industries. As noted elsewhere, two surveys were made. The first covered payroll periods just before and just after the $1.00 minimum went into effect (generally, February and April 1956). Most of the plants were re-surveyed a year later, in April 1957, in order to observe longer-term effects of the minimum wage. The statistical procedure used was a "matched sample" of plants that remained in operation in all three periods—although we are not told how successfully the "matches" were made.

Since the estimates of employment changes and related data are based on a sample, they are subject to sampling variability. But the standard error, which is a measure of sampling variability, is not mentioned in the BLS study. Thus we cannot judge the significance of the results. In addition to sampling variability, the data are subject to errors of response. A discussion of this point is not contained in the study.

In discussing the effects of the minimum wage on employment, it is important to distinguish between changes in the level of employment and changes in the composition of employment. Thus, owing to the minimum wage, we may find a decrease in the level of employment or a decrease in employment in the covered plants but a compensatory increase in employment in the uncovered plants so that the level of employment is not affected. The minimum wage has an effect but not of attaining its purpose of raising wages without affecting employment. Since *the surveys include neither plants that began or discontinued operations during the periods surveyed nor uncovered plants*, the data on employment changes in the studies contain a bias in an unknown direction.

On the one hand, the studies may overestimate the net effects on the level of employment, since they do not include plants that began operations nor plants not covered by FLSA. Take the case of the southern sawmills as an example of a change in composition of employment. If the effect of the $1.00 minimum wage is to increase the number of sawmills employing fewer than eight people, either by the splitting of sawmills of formerly more than eight, or by the entrance of new sawmills with less than eight, and thus not covered by the minimum wage, the net unemployment effects may be overestimated.

On the other hand, the studies may underestimate the net effects on the level of employment since they do not include plants going out of business. The Southern Pine Industry committee, for example, has attempted to document the number of sawmills that discontinued operations following the $1.00 minimum wage.[12] The procedure involved in developing this information consisted of a letter directed to companies which were reported to be going out of business, or had shut down. A questionnaire was forwarded to them with the request that they furnish information such as: name of operation; address; annual production; number of employees; weekly payroll and the amount of investment dollar-wise. The question was also asked regarding the reason for shut down.[13]

The committee reports that although most of the letters mailed were returned with notation they "had moved—left no address, usable returns were received from 52 companies located in 11 of the 12 producing states that they closed down." Employment at these 52 companies numbered 2,752. Thirty-five companies reported the increase in the minimum wage from $.75 to $1.00 as the major factor in their decision to liquidate; the remaining 17 companies referred to the increase in the statutory minimum as a contributing factor toward their decision to liquidate.

Granting the obvious limitation of asking people why they did what they did, when they did, the results of the committee's questionnaire, while far from reliable, still indicate a serious gap in BLS surveys.

---

[12] Statement submitted by Southern Pine Industry Committee to the Senate Committee on Labor and Public Welfare, May 1959.

[13] *Ibid.*

D. Employment Estimates

As in previous studies, the data for the 1955–57 studies are based on wage structure surveys, which measure employment of labor only in number of workers, rather than in total man-hours. They do not, therefore, necessarily provide reliable employment estimates.

In addition to the above limitations, the BLS studies, moreover, give several different estimates of the unemployment effects of the $1.00 minimum wage which rely on different approaches. One estimate is the changes in employment in the "matched sample" of covered plants in the industry in all three survey periods. In the sample of southern sawmills, for instance, an over-all employment decline of 8% is presented for the period October-December 1955–April 1957.[14]

A second estimate of employment effects of the $1.00 minimum is given for a sample of southern sawmills in a separate BLS study which reports a 15% decline in sawmill employment between the last quarter of 1955 and April 1957.[15] This decline includes the effects of sawmill attrition in this period, whereas the 8% decline reported above does not. (Of the sawmills in operation in the fall of 1955, 4% were no longer in operation in April 1956; 19% of those operating in April 1956 were not operating a year later.) Neither the 8% nor the 15% figure includes employment in plants not in operation in one of the earlier survey periods but operating in a later period.

Another unemployment estimate is based not on a sample but on investigation of plants reported adversely affected by the $1.00 minimum.[16] Since these plants are not broken down by industry, the results cannot be made comparable with the above figures for the sawmill industry.

In fact, the observed changes in employment are the result of many factors, only one of which is the $1.00 minimum. Some changes in employment, partly attributable to the new minimum (i.e., employment in uncovered firms and in firms starting operation during the survey period) have escaped observation. As a result of these deficiencies in the BLS data, quantification of employment effects of the $1.00 minimum wage is simply not possible.

IV. THE 1955–57 CROSS-SECTION STUDIES AND ECONOMIC THEORY

In spite of the limitation of the 1955–57 studies, they provide data breakdowns by region, various plant characteristics, and low-, medium-, and high-impact wage groups that permit some cautious cross-section comparison. This section will consider, first, to what extent these data are consistent with an inverse relation between changes in the minimum wage and changes in employment in the low-wage industries studied.[17] Second, this section will consider to what extent the results of these studies are consistent with the substitution implications of a competitive model. Third, we shall consider in this section another form of adjustment to the minimum wage—namely, evasion. Owing to the limitations of available data, no claim is made of a rigorous test of the above two implications of the cross-section competitive model. The most that can be done is to gauge roughly the consistency of these two implications with that of available data.

A. Employment Effects

Given a source of initial variation in equilibrium wages among firms, an implication of the cross-section competitive model is that *ceteris paribus* there will be an inverse relation between wage increases imposed by a minimum and employment changes among firms making a similar product for the same market. Thus we should expect to find low-wage firms whose wages increase more to have smaller increases or larger decreases in employment than high-wage firms whose wages increase little or not at all.

One way to test the above implications against readily available empirical evidence is to subclassify plants according to the criterion of per-

[14] U. S. Department of Labor, *Studies of the Economic Effects of the $1 Minimum Wage*—"Effects in Selected Low Wage Industries and Localities," *op. cit.*, p. 27.

[15] U. S. Department of Labor, Bureau of Labor Statistics, *Studies of the Effects of the $1 Minimum Wage*, "Wage Structure: Southern Sawmills, April 1957" (BLS Report No. 130, March 1958), p. 11.

[16] U. S. Department of Labor, *Studies of the Economic Effects of the $1 Minimum Wage*, "Interim Report" (Washington: Government Printing Office, March 1957), p. 6.

[17] The relation is an implication of the cross-section competitive model contained in Peterson's paper and discussed by him. We are thus provided an opportunity to check the consistency of the relation in the period 1955–57.

TABLE I

EMPLOYMENT CHANGES 1955-57[1]

SURVEY SAMPLE PLANTS IN SELECTED LOW-WAGE INDUSTRIES*

Impact Groups[2]	High	Medium	Low
South			
Sawmills	−16	−6	−4
Wooden Containers	−2	0	0
Processed Waste	−17	—	0
Footwear	−3	—	+5
Southeast			
Fertilizers	−9	−3	+4
Seamless Hosiery Men's	−19	−13	−8
Children's Hosiery	−16	−10	−14
Cigar Industry	−7	−6	−4
Workshirts	−7	—	−9
Other			
Cigar Industry York County	−5	—	−1
Tobacco Stemming, Re-drying	−27	−15	−14

* Source: U. S. Department of Labor, Wage and Hour and Public Contracts Division, *Studies of the Economic Effects of the $1.00 Minimum Wage:* "Effects in Selected Low Wage Industries and Localities." (Washington: Government Printing Office, January 1959.)

[1] In most cases data are given only for one pair of dates; where more than one pair is available, the dates used are the latest before the $1 minimum went into effect, and the earliest after it went into effect. The survey dates above are as follows: sawmills, October-December 1955 and April 1956; wooden containers, processed waste, men's and children's seamless hosiery, cigar industry, February 1956 and April 1956; fertilizers, April 1955 and April 1956; footwear and workshirts, August 1955 and April 1956; tobacco stemming and re-drying, the peak employment periods of 1956 and 1957.

[2] Impact refers to the percentage increase in wage costs required to comply with the $1 minimum. The definition of high, medium, and low impact groups is different for each industry, as follows: sawmills, 22% and over, 13-22%, and less than 13%; wooden containers, 25% and over, 13-25%, and less than 13%; processed waste, 22% and over and less than 22%; fertilizers, 14% and over, 1-14%, and less than 1%; men's seamless hosiery, 12% and over, 6-12%, and less than 6%; children's seamless hosiery, 12% and over, 7-12%, and less than 7%; cigars, 6% and over, 1-6%, and less than 1%; footwear, 7% and over, and less than 7%; workshirts, 17% and over, and less than 17%; tobacco stemming and re-drying, 26% and over, 17-26%, and less than 17%.

centage increase in wage costs required to conform to the new minimum into high-, medium-, or low-impact groups. This is the approach used in the BLS studies. Table I, which summarizes the changes in employment between 1955 and 1957, shows, as expected, considerable differentiation by impact groups. The employment decline is greatest in the high-impact group, for 10 of the 11 industries, and least in the low-impact group, for 9 of the 11 industries. Changes in employment by impact groups, of course, neither exclude influences on employment other than the $1.00 minimum wage nor include all the employment effects of the $1.00 minimum. Classification by impact groups, therefore, does not quantify employment effects. It does, however, yield data that are consistent with the inverse relation between wage changes and employment changes implied in the competitive model.

B. Substitution Effects

Another implication of the competitive model is that wage increases imposed by a minimum provide incentives for factor substitution, other things remaining the same. And the longer the period allowed, the more opportunity will be provided for factor substitution to occur. The evidence presented in the BLS studies on changes in machinery, equipment and methods following the $1.00 minimum wage are consistent with the substitution implications of a competitive model.

The BLS surveys in a number of comparatively low-wage industries showed that from 41% to 96% of the non-supervisory workers in the industries earned less than $1.00 an hour prior to March 1, 1956.[10] The expected magnitude of the increases in wages—confirmed by the survey—led to expectations of non-wage actions to adjust to the higher-wage costs.

Consequently, BLS planned a survey of "Plant Adjustments to the $1 Minimum Wage" to determine what actions were taken to adjust to the new minimum wage.

Industries covered were: fertilizers, footwear, men's and boys' shirts, processed waste, sawmills, seamless hosiery (men's and children's), wooden containers, and work shirts. Some 1,105 completed questionnaires were obtained by BLS field representatives.

Before we turn to the findings of the survey,

[10] See footnotes 4 and 5.

a brief summary of the limitations noted in the BLS studies is useful in judging the value of the findings. First, the results for each of the industries studied may not truly represent the extent to which individual plant adjustments were made in those industries—because the sample of establishments was that selected for the wage surveys, and not necessarily the best for the study of adjustments. Second, some difficulty obtains in securing precise data for some of the questions. Many such actions reflect simply the continuous performance of the managerial function, and it was not possible to disentangle those actions resulting from decisions previously arrived at from those that were, at the least, quickened by the higher minimum. Not all of the actions taken can in any case be attributed to the new minimum. Third, the areas of adjustment included in the survey do not exhaust the possibilities of adjustment.

Management representatives interviewed in the majority of plants in each industry reported some action taken in one or more of the following selected areas of adjustment.

1) *Machinery and Equipment*. The most widely used area of adjustment was increased expenditures for machinery and equipment. Nearly 45% of the 1,105 plants reported expenditures exceeding those of the previous year. More than three-fifths of the seamless hosiery mills reported increased expenditures, as did half or more of the southern sawmills and the wooden container plants. At the lower end of the scale, only one-fourth of the footwear plants reported increases.

2) *Plant Layout and Work Procedure*. About 20% of the plants reported changes in plant layout or re-organization of work procedures. Some changes in plant layout and re-organization of work procedures came as necessary adjuncts to other types of action taken. New machinery and equipment have been mentioned; adding or dropping products was also important in some cases (work shirt plants reported this factor more often than any other), and reducing or expanding the scope of operations also led to some changes (dropping or adding planing and logging operations in sawmills, for example).

Other plant layout changes were instituted directly to increase operating efficiency, rather than as a result of other actions. In some cases, machines were more conveniently placed for workers operating more than one machine; in other cases, the flow of work was improved by changing the position of the workers. A minority of the employers interviewed attributed these plant engineering changes directly to the $1.00 minimum wage. The types of action leading to these changes, however, indicate the probability of significant influence stemming indirectly from the higher minimum.

3) *Quality of Workers*. Most of the discharges directly attributed to the $1.00 minimum wage apparently resulted from the inability to attain production standards imposed after the higher minimum became effective; that is, employees were required to produce more units per hour, and some could not do so. The proportion of plants studied in which production standards were raised varied from 28% in the work shirt industry to none in the footwear industry. Increased production standards were reported most frequently by the seamless hosiery mills, with the processed waste mills and the men's and boys' shirt plants ranking second and third, respectively.

A number of the employers reporting increased production standards emphasized greater supervision. Some employers also indicated closer scrutiny of new hires and raised hiring standards in an effort to insure that new employees would meet higher productivity standards. No information is provided on possible effects of the $1.00 minimum on the rate of hiring.

4) *Change in Product Line*. The final area of adjustment explored in these studies—and the one least used—was a change in product line. Only 7% of 1,105 establishments reported product changes; but 28% of the work shirt plants, 17% of the footwear plants, 16% of the seamless hosiery mills, and 11% of the wooden container plants reported some product changes. In the other four industries, the proportion of plants ranged from 2 to 6 per cent.

Establishments in all the industries surveyed generally concentrate their resources on the manufacture of a single product. Changes in the cost structures may, however, provide incentive for employers to re-examine alternative uses of these resources.

Time, of course, is required before the full impact of the substitution effect is felt. As noted in section II, immediately following the introduction of the new minimum occupational wage differentials were narrowed, and an increased proportion of workers were concentrated about the minimum wage. Though in the longer run

TABLE II

Minimum Wage and Overtime Violation, Fiscal Years 1949-58*

Year	Covered Employees	Employees Underpaid		Underpayment Amounts		Underpaid as % of Workers	Amount Underpaid per Underpaid Worker
		Minimum	Total	Minimum	Total		
1949	1,556,117	—	186,310	$ —	$12,186,957	12.0%	$ 65.4
1950	1,515,643	—	140,872	—	9,509,628	9.3	68.1
1951	1,569,866	—	139,038	—	11,202,561	8.9	80.6
1952	2,125,103	—	208,078	—	15,663,912	9.8	75.3
1953	2,092,933	—	193,111	—	16,652,697	9.2	86.2
1954	2,019,649	—	141,368	—	13,774,248	7.0	97.4
1955	1,962,278	36,894	128,754	$2,135,731	12,151,077	6.6	94.4
1956	1,581,641	27,617	112,710	1,612,902	11,085,952	7.1	98.4
1957	2,296,913	77,463	181,910	5,289,873	18,834,134	7.9	103.5
1958	1,910,127	63,349	166,497	6,145,385	19,655,299	8.7	118.1

* **Source:** U. S. Department of Labor, *Forty-sixth Annual Report of the United States Department of Labor, Fiscal Year 1958*; pp. 242, 243.

Wage and Hour and Public Contracts Divisions, *1955 Annual Report of the Wage and Hour and Public Contracts Divisions*, p. 71.

Wage and Hour and Public Contracts Divisions, *1956 Annual Report*, p. 234.

Wage and Hour and Public Contracts Divisions, *1957 Annual Report*, p. 207.

wage rate adjustments tended to restore the differentials, in most instances the restoration of prior differentials fell short in both absolute and relative terms. This pattern suggests a relatively low elasticity of substitution in the short run.

C. Minimum Wage and Enforcement

Though not an implication of the cross section competitive model *per se*, evasion and avoidance are a form of adjustment to the minimum wage. In effect, an increase in the minimum wage is equivalent to a reduction in the price of evasion and avoidance. The price of evasion and avoidance is the cost of evasion and avoidance minus the benefits of evasion and avoidance. The benefit has increased with the increase in minimum wage. And other things equal, one would expect evasion and avoidance of the minimum wage to increase.

Avoidance of the minimum may take any number of forms that permit firms to operate outside the coverage of the Fair Labor Standards Act. These include split-ups and firings to reduce the number of employees to less than eight, and restriction of business to intra-state sales, whether by reduction of market areas or by vertical split-ups separating intra-state from inter-state functions. Evasion of the minimum wage or failure to pay the minimum wage is considered a violation of Fair Labor Standards Act. In this section we shall restrict ourselves to a discussion of evasion, on which some information is available, whereas no data are available on avoidance.

As noted in the BLS studies, "One important aspect of the effects of an increase in the minimum wage is not discussed in the report. This concerns the extent to which the statutory minimum wage is not paid by the employers. . . . It is apparent now that the extent of violation of the $1 minimum wage is greater than was the extent of violation of the $.75 minimum."[19] Minimum wage violations were found in 21% of investigations made for enforcement purposes between July and December 1956; in the corresponding period of 1950, the percentage of violations was 18%. The amount of underpayment per establishment rose from $240 in 1950 to $504 in 1956; the amount per underpaid employee rose from $41 to $63.[20] The trend in violations, shown in Table II, reveals a marked increase in amount of underpayment immediately after new minima went into effect.

Discovered underpayments of the minimum wage more than tripled between fiscal year 1956 and fiscal year 1957. The number of employees

[19] U. S. Department of Labor, *Studies of the Economic Effects of the $1 Minimum Wage*, "Interim Report," *op. cit.*, p. 3.
[20] *Ibid., loc. cit.*

found to have received less than the minimum nearly tripled in the same period, rising from 27,617 in fiscal 1956 to 77,463 in fiscal 1957. Allowing for the fact that a larger number of firms employing a larger number of covered workers were investigated in 1956 than in 1957, the percentage of employees receiving less than the minimum increased 93% and the amount of underpayment per employee roughly doubled. If for every discovered violation of the minimum, three went undiscovered (this being the ratio of discovered to undiscovered underpayment estimated by the Department of Labor for fiscal year 1958), then about 310,000 covered employees were paid less than the minimum in fiscal year 1957. The magnitude of the violation problem is indicated by a Department of Labor estimate that about 2 million covered workers were receiving less than $1.00 in 1955 at the time the new minimum was enacted. The Department estimated that total underpayments both discovered and undiscovered totalled $80 million.[21]

The data breakdowns available in the annual reports of the Wages and Hours Division of the Department of Labor do not correspond to the industry breakdowns used to study the effects of the $1.00 minimum. Data on violations for fiscal years 1955 and 1956 in the sawmill industry in the South, for instance, are available for "sawmills, planing and plywood mills."[22] Of the plants investigated in fiscal year 1955, 18% were found violating the minimum wage; the figure for fiscal year 1956 was also 18%. (Comparable data are not given for fiscal 1957, which should include most of the impact of the $1.00 minimum on evasion rates.) A more significant comparison, however, would be by impact groups and for the months preceeding and for the months following the effective date of $1.00 minimum. It should be noted, moreover, that the industry coverage above is considerably more extensive than southern sawmills, covering other types of mills and the entire country.

Data on violations in all industries show that the rate is much higher in the South than in the rest of the country. This is what we would expect since the South is a comparatively low wage area, and thus affected by the minimum and rises in the minimum wage more than other areas of the country. In fiscal 1955, 12% of all plants investigated were found in violation of the minimum; but 22% of southern plants were guilty. The percentage was even higher for Puerto Rico and the Virgin Islands: 34%. The average amount underpaid (both minimum and overtime payments) was $467 per violating firm in the South and $440 in the U. S. as a whole; amount of underpayment per underpaid employee was $64 in the South, $58 in the country as a whole.[23] No such regional breakdown is given by industry.

The ratio of plants found violating the minimum wage to number of plants investigated cannot be generalized to industry as a whole. Some of the investigations are based on complaints or other indications of probable violation; other investigations, although not based on evidence of violation, are concentrated in industries and areas where past experience indicates violations are common. The percentage of violations found in complaint investigations is considerably higher than the percentages in routine non-complaint investigations. Even the latter percentage cannot be generalized to industry as a whole because of bias in selecting industries and areas where violation is prevalent. Only one of five investigations is based on a complaint.

The percentage of violations in non-complaint investigations might be a reasonable index of total violation in the sawmill industry in the South, and in other low-wage industries mainly in the South. Selection of plants in the southern sawmill industry for investigation could approximate a random sample except that plants subject to complaint investigation are excluded.

Violations of overtime pay provisions of the Wages and Hours Act have received far less attention than they deserve on the basis of their prominence in statistics on violations. The amount of underpayment discovered is more than twice the underpayment of the minimum wage. The number of firms found violating overtime pay provision is much larger. In fiscal year 1955, 19% of plants investigated in the "sawmill,

[21] Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, 86th Congress, First Session, Departments of Labor and Health, Education, and Welfare Appropriations for 1960, pp. 315, 319.

[22] U. S. Department of Labor, *1955 Annual Report of the Wage and Hour and Public Contracts Divisions*, pp. 68–71; U. S. Department of Labor, *1956 Annual Report of the Wage and Hour and Public Contracts Divisions*, pp. 230, 234.

[23] U. S. Department of Labor, *1955 Annual Report of the Wage and Hour and Public Contracts Divisions*, *op. cit.*, p. 5.

planing and plywood mill" industry were found in violation of the minimum wage, but 48% were in violation of overtime pay provisions. A higher minimum, by increasing the overtime differential, reduces the price of evasion and thus adds incentive to violate overtime pay legislation.

V. CONCLUSION

The BLS studies suffer from a number of limitations which reduce their usefulness in trying to gauge the economic effects of the $1.00 minimum wage. The most serious limitation is the failure to include in the samples plants which began or discontinued operations during the periods studied, and plants not covered by the Fair Labor Standards Act. As a result, the data cannot be used to quantify the economic effects of increasing the minimum wage. It is impossible to establish from the data even a rough order of magnitude of the relevant quantitative changes, such as net unemployment effects. At most, the data on employment and related variables are useful for indicating the direction of certain changes.

Insofar as the studies do indicate the qualitative direction of change, they are consistent with the implications of a cross-section competitive model. The inverse relation between changes in the minimum wage and employment and the substitution effects one would expect appear to be confirmed. When scattered information on evasions of the minimum wage is taken into account, the competitive model does appear to have predictive validity. Certainly, no one can seriously claim, on the basis of such studies, that the usefulness of marginal analysis has been disproved. On the contrary, the inherent logic of economic analysis stands up very well indeed.

No claim, however, is made in this paper that the implications of competitive theory have been rigorously tested. The published data simply do not permit rigorous tests to be applied. The data, as far as they go, are at least consistent with what competitive theory would predict, though they do not exclude other models.

In setting up future studies, it would be helpful for the Bureau of Labor Statistics to adopt a sounder methodological approach at the outset, in order to insure the procurement of all the relevant data. If the relevant data are made available in useable form, independent researchers can then proceed to shake out their implications. The Bureau would then be performing a really useful service.

INSTITUTIONAL AND STRUCTURAL CHANGE, STABILITY OF OUTPUT, AND INFLATION

EUGENE R. SCHLESINGER*

New York University

Three important and interrelated questions are raised by recent suggestions that the Employment Act of 1946 be amended to provide that the Federal Government explicitly assume the additional responsibility of maintaining price stability. First, how much of the remarkable cyclical stability of output in the postwar years has been the result of conscious and deliberate Government policies, and how much would have occurred anyway because of fundamental changes which have taken place in the American economy? Secondly, what part of the pronounced inflationary pressures of these same years was created by economic irresponsibility and political pressure, and how much was the inevitable outcome of basic economic change? Thirdly, considerations of monopoly power and political pressure aside, are the problems of achieving a reasonable amount of balance between inflationary and deflationary pressures really as technically simple as described in the standard literature, or have they, too, been affected by the major economic changes which have taken place?

A distinction between structural and institutional change offers one method of exploring these questions and forms the basis of the analysis of this paper. *Structural changes* are defined as those which would be natural concomitants of continued growth and development in any economic environment and which are presumably beyond the reach of government policy. *Institutional changes*, on the other hand, are those which are associated with the specific pattern of change that has developed in the United States and which are probably reversible, in a technical if not political sense, by policy changes in the fiscal, monetary, antitrust, and labor areas. Within the context of these definitions, the growth of the government sector must be considered a combination of both kinds of change—a factor which is in itself pertinent to the questions under investigation. Although a large part of the increase in the Federal Budget is undoubtedly the result of special institutional factors stemming from the cold war, it seems equally clear that any modern industrial society is likely to demand a significant share of rising real income in the form of additional government services.[1]

I. STRUCTURAL CHANGE AND STABILITY OF OUTPUT

The effects of structural change on the short-run stability of output can be conveniently analyzed in terms of three major trends which have been transforming the basic structure of the American economy: (1) the increase in the extent of the market which normally accompanies economic development and which has become especially important for the United States because of the really vast size that her economy has attained; (2) the continued transition from primary to secondary production and the subsequent transition to tertiary production which has been brought about by urbanization, the spread of education, the aging of the population, and the increasing specialization which has followed on expanded activity;[2] and (3) the changes in the nature of investment and consumption which may be expected to accompany technological and economic progress.

The dynamization of Adam Smith's famous "extent of the market" postulate has become a familiar corner-stone in the analysis of economic

* The author wishes to express his appreciation to his colleagues at the New York University Graduate School of Business Administration—Clifford D. Clark, Solomon Fabricant, Robert A. Kavesh, and Herman E. Krooss—for their helpful comments on an earlier version of this paper.

[1] That there is a major structural aspect to the long-run growth in the demand for government services is clearly demonstrated by Solomon Fabricant in his *The Trend of Government Activity in the United States since 1900* (New York: National Bureau of Economic Research, 1952). This structural component cannot, however, be defined very precisely, for the rate of expansion in government non-defense activities which would normally have accompanied economic growth has been curtailed by the priorities given to military requirements.

[2] Cf. George J. Stigler, *Trends in Employment in the Service Industries* (Princeton: Princeton University Press, 1956), especially pp. 165–6.

underdevelopment. Not nearly so widely recognized is its relevance to the question of stability of output in an economically advanced country where exports absorb only a very small fraction of national production. From the standpoint of consumption, the higher living standards associated with a larger market mean greater possibilities of substitution, larger elasticities of demand, and reduced chances of susceptibility to certain types of economic shock. From the standpoint of production, broader and more developed factor markets decrease the probability of shortages of particular skills causing bottlenecks and interfering with the continuity of change, while larger markets for individual products mean that technological considerations of optimum plant-size are not as likely to create situations in which a rise in the capacity of an industry will significantly lead or lag behind the growth in effective demand.

The transition of an economy from one characterized by primary production to one largely dominated by secondary production is accompanied by a lesser dependence on the forces of nature, a significant increase in price-elasticities of demand, and a greater control by business firms over their production and prices. The increasing likelihood of greater stability of national output which results from these changes is further strengthened by the transition from secondary to tertiary production. That portion of the rise in services which comes from increasing specialization and urbanization should, in the opinion of many economists, be interpreted as an additional cost of obtaining the national income rather than as part of the national income itself. But no matter what convention of social accounting one chooses to follow, the fact remains that the growth in the importance of services of this kind represents (a) a rise in the proportion of resources devoted to comparatively "unproductive" uses and (b) another development which reduces the chances that the rate of increase of output can exceed that of effective demand.

Most of the effects of changes in the nature of investment are best understood in terms of the familiar distinction between *autonomous investment* and *induced investment*, which assumes that the former has a special role to play as a prime mover in economic change. The one important case for which this distinction is not necessary is the pronounced secular drop in the capital-output ratio in manufacturing. Since the primary cause of this decline was the decreasing importance of the plant component in total capital outlays,[3] its principal effect has been to reduce further the probabilities of technological discontinuities interfering with a smooth process of adjustment between the rates of growth in effective demand and productive capacity.

The nature of social-overhead investment changes gradually in the course of economic development from what is almost entirely autonomous investment to what is largely induced investment—a transition which is significant because it is now recognized that the creation of autonomous social-overhead capital is a necessary but not sufficient condition for economic growth.[4] That there is an absence, in later stages of economic development, of a type of instability which stems from the discontinuous nature of autonomous social-overhead investment can be seen from a comparison of the relatively smooth development of the comparatively new natural gas pipeline industry with the pronounced fluctuations that were present in the nineteenth century development of the technologically similar railroad industry—a contrast in behavior which also reflects the notable growth in the extent of the American market.

Three other factors which have affected the nature of autonomous investment have acted to make booms better balanced and more evenly distributed among industries. They are (a) the tendency of industrial development to build on the technology of the past;[5] (b) the virtual dis-

[3] Cf. William F. Butler, "Capacity Utilization and the Rate of Profitability in Manufacturing," *American Economic Review*, May 1958, XLVIII, especially pp. 246–8. Although Butler believes that the trend of the last thirty years will be moderately reversed, such a reversal would be relatively unimportant for the present argument. What does matter here is that the plant component of capital outlays is likely, as a result of increased technological efficiency, to remain considerably smaller than at an earlier stage of economic development.

[4] The permissive nature of social-overhead investment in the growth process is brought out quite effectively by Albert O. Hirschman in "Investment Policies and 'Dualism' in Underdeveloped Countries," *American Economic Review*, September 1957, XLVII, especially pp. 551–7.

[5] The stabilizing implications of "building on technology" are clearly indicated in the case of the most spectacular of modern inventions. In the United States, at least, the relative importance of atomic energy investment in over-all autonomous capital formation could not nearly be equal to that of the original introduction of electric power. Atomic energy will affect fuel supply primarily and

appearance of the geographical frontier; and (c) the fact that modern dynamic giants like chemicals and electronics can be more properly considered, not as single industries, but as complexes of many individual industries. When a boom is not based on a single prime mover like the exploitation of a particular invention, product, or geographical locality, it tends to be more stable and better able to withstand the eventual shocks which are bound to result from either the completion of the project or the inevitable slowing down of the rate of exploitation.[6] At the same time, there is a considerablely greater chance that other types of investment demand may come along at an appropriate time to take up the slack that is created by these shocks.

Changes in autonomous consumption have also had some influence on the stability of output. Higher living standards imply a rise in discretionary consumer purchasing power, while the growth in the variety of consumer durables is a second factor working to increase the dynamic possibilities inherent in consumption expenditures. The available empirical evidence suggests, however, that it is extremely unlikely that these developments could have offset, to more than a minor extent, the effects of the changes in autonomous investment. The stabilizing aspects of social consumption minima cannot be ignored;[7] transitory components seem to be much smaller relative to permanent components for consumption than for income;[8] and far more of the instability in spending for consumer durables appears to be the result of particular credit policies than of the inherent nature of these goods.[9]

leave the vast superstructure of the electric industry more or less intact.

[6] The tendency for the rates of growth of individual products in dynamic industries to taper off is demonstrated by the data for the United States presented by G. Warren Nutter in "Some Observations on Soviet Economic Growth," *American Economic Review*, May 1957, XLVII, p. 626.

[7] This is clearly brought out by the data cited and the literature presented in Elizabeth W. Gilboy, "Elasticity, Consumption, and Economic Growth," *American Economic Review*, May 1956, XLVI, especially pp. 128–31.

[8] Milton Friedman, *A Theory of the Consumption Function* (Princeton: Princeton University Press, 1957), p. 228.

[9] Cf. Dennis H. Robertson, "An Introductory Note," in Erik Lundberg, ed., *The Business Cycle in the Post-War World* (New York: St. Martin's Press, 1955), pp. 3–10.

II. INSTITUTIONAL CHANGE AND STABILITY OF OUTPUT

Any judgment as to the actual effectiveness of structural changes in promoting greater stability of output should be made with the realization that a number of these changes were already exerting themselves to some extent before the advent of the great depression of the thirties. On the other hand, the strength and pervasiveness of the changes in economic structure have undoubtedly continued to grow significantly in the intervening period. Moreover, they have been accompanied by major stabilizing institutional changes in the form of the expanded share of government activity in the national income and the growth of the size of decision-making and bargaining units in industry and labor.

The principal institutional development has, of course, been the very great rise in the relative importance of the government sector in the economy. One result of this has been an increase in the comparatively "unproductive" components of national output—a development which was mentioned above in connection with the growing production of certain kinds of private services and which is considerably more pronounced in the case of such government services as national defense expenditures. A second and equally important result of the vast increase in government budgets has been a tendency for the rate of spending out of national income to increase. The marginal propensity of the government sector to spend out of disposable income for currently produced goods and services is certainly as large as that of the private sector and, since it may approach virtual unity, probably exceeds the latter by some significant margin.[10] On the other hand, the increase in the relative importance of the government sector is, by itself, only a necessary and not sufficient condition for a more stable over-all national spending pattern. With the growth in the size of the Federal Budget, the impact of abrupt shifts in budget-

[10] Cf. Arthur Smithies, *The Budgetary Process in the United States* (New York: McGraw-Hill, 1955), p. 452. It should be recognized that the only condition which is necessary for a more stable spending pattern is that the government's propensity to purchase currently produced goods and services exceeds that of the private sector. The rigorous assumptions or detailed quantitative knowledge which are needed for assuming a "unit multiplier" or for actually measuring a "balanced-budget multiplier" are not germane to our present purposes.

ing policies can, needless to say, be more destabilizing than they were in the past.[11]

Important institutional changes have also made for greater stability of output within the private sector of the economy. Increased possibilities for balance in the comparative rates of growth of the household and business sectors, for example, have been created by (1) the spread of industrial unionism and industry-wide collective bargaining, (2) the increase in the rate of population growth and the resulting change in the age-distribution of the population,[12] and (3) the marked rise in the redistribution of income brought about by the increase in the Federal Budget and the attendant rise in the progressiveness of the tax system.[13] The first of these changes has undoubtedly been the most crucial one. Increasing money wages is an easier and more certain method than lowering prices for raising real wages and ensuring the diffusion of productivity gains in an economy in which an important part of competition is in the form of product differentiation and other non-price factors.

Within the business sector the principal development has been the impact of large-scale industrial and financial corporations on the stability of output and spending. The growth of financial intermediaries and the virtual institutionalization of research as part of systematic programs of developing new products and techniques have acted to create far less volatility in investment spending than was true in the days when the introduction of new products and techniques was more subject to *ad hoc* decisions. There has, moreover, been a significant decrease in the opportunities for the historically important type of economic dislocation that was brought about by the displacement of the "old" by the "new." In view of the size and diversified nature of the modern corporation, new products and methods can now be introduced more gradually because a major part of the impact of innovation tends to fall within the confines of a firm's own product market or to affect mainly its own technological methods.

Equally important for the stability of spending and output is the lengthening of the economic horizon in business planning, which has been brought about mainly by a) a vastly increased scale and complexity of operations and b) the separation of ownership and control. A growing concern with the long-run economic outlook implies a corresponding decline in short-run fluctuations and also reflects both a growing sense of social responsibility on the part of business managers and an increasing understanding of the impact which their decisions have on economic fluctuations.[14]

The expansion of the economic horizon is, however, essentially *ex-ante* in nature since the actual rate of business spending is determined by both the ability and desire to spend. Given the considerable amount of cyclical variation which exists in corporate profits, therefore, one should be careful not to underestimate the importance of a lengthening of the business horizon simply because of the apparent ineffectiveness of long-range capital budgeting techniques in producing any significant stability in *ex-post* business capi-

[11] Hickman, for example, has pointed out that Federal Government expenditures have been the most volatile component in total spending during the postwar period. See Bert G. Hickman, "Federal Spending and the Stability of the Postwar Economy," in U. S. Congress, Joint Economic Committee, *Federal Expenditure Policy for Economic Growth and Stability: Papers Submitted by Panelists Appearing Before the Subcommittee on Fiscal Policy*, 85th Cong., 1st Sess., 1957, pp. 357–81.

[12] Although substitution of the "permanent income hypothesis" for the familiar Keynesian assumptions does destroy the "excess savings" argument of the secular stagnation thesis (Friedman, *op. cit.*, pp. 336–7), the problem of short-run output stability is not necessarily affected. Indeed, to the extent that income redistribution results in shifts of purchasing power away from the entrepreneurial group or those for whom the transitory components of income are high (*ibid.*, pp. 227–8), the minimizing of short-term deflationary shocks may even be greater under the "permanent income hypothesis" than under the assumption of an expenditure-lag.

[13] Although the increase in the rate of U. S. population growth has resulted from both structural and institutional changes, its implications for the stability of production can more usefully be analyzed in terms of the latter. It is the reproduction-rate or institutionally determined component of population growth which is more subject to future variability and possible reversal of trend. The death-rate or structural component reflects the close correlation between economic growth and medical services and tends to change more slowly and consistently.

[14] The differences in the investment behavior of small and large businesses can be better understood in the light of a Wall Street analogy. An active individual investor tends to try to take advantage of intermediate fluctuations, while the manager of a large institutional portfolio prides himself on his long-term outlook. Perhaps this is because he is more sophisticated and public-spirited, but it is also because the funds which he is managing belong to someone else and are so large that any attempt to take advantage of short-run fluctuations would be self-defeating.

tal outlays.[15] *Ex-ante* considerations do play a major role in economic life, and there is evidence that, in such basic industries as petroleum and steel, large firms do have somewhat more stable capital spending patterns than small firms.[16] The broadening of the economic horizon which accompanies the growth in the size of business units is thus already contributing significantly to the stability of spending and should become even more important with the passage of time.

Those institutional changes which we have been discussing affect the stability of output within individual industries or investment sectors. But there have also been a number of developments which have considerably lessened the degree and speed with which imbalances in any one sector are transmitted to other parts of the economy: 1) the fact that the level of demand in the large Federal Government sector is, given a willingness to maintain expenditures in the face of declining revenues, by definition completely impervious to changes in the economy at large; 2) the degree of temporary insulation from maladjustments elsewhere among the various industries in the private sector that has been created by automatic stabilizers like unemployment insurance and the increased "built-in" flexibility of the revenue system; and 3) the significantly smaller probability, as compared to the nineteen thirties, of forced waves of liquidation taking place in the later stages of a downward movement, which has been brought about by government regulation, guarantee, and insurance legislation in the area of banking, mortgages, and securities markets.

III. THE PROBLEM OF INFLATIONARY IMBALANCE IN THE LIGHT OF INSTITUTIONAL AND STRUCTURAL CHANGE

The dissection of the causes of inflation has always been an intricate matter, but the analytical problems involved are particularly delicate under conditions existing in the modern American economy. Much of any rise in prices probably reflects (a) political pressures for ample credit creation and premature Government action to fulfill its obligation under the Employment Act and (b) fiscal irresponsibility on the part of the public in demanding a greater increase in government services than it is willing to pay for. At the same time, however, a very significant part of inflation appears to be a result of the structural and institutional changes which have taken place in the American economy.

One aspect of institutional change, the emergence of large decision-making units in the private sector and their interaction in the collective bargaining process, has received a great deal of attention in recent analyses of inflation.[17] For this reason, even though the comparatively unrestrained interplay of forces between large economic power blocs has undoubtedly been of major importance in creating inflationary imbalances, it need only be treated very briefly here. That there is a tendency for the national levels of wages, prices, and unit labor costs to increase together should not be considered at all surprising under conditions where the largest, most powerful, and pattern-setting unions are located in industries which exhibit strong oligopolistic characteristics and tend to achieve greater than average increases in output per man hour.

The relationship of institutional and structural change to inflation is, however, deeper and more widespread than is implied by the study of economic power blocs alone. Stability of output, for example, has been influenced in a very special way by most of the structural changes which we have analyzed (e.g., the growth in tertiary production, the relationship between the extent of the market and technological considerations of optimum plant-size, the decline in the capital-output ratio in manufacturing, and the changing role of social-overhead investment in the course of economic development). Structural changes have, apart from bringing about a more balanced distribution of autonomous investment

[15] See, in contrast, the views of Robert Lindsay, "The Stability of Business Capital Outlays," *Review of Economics and Statistics*, May 1958, XL, pp. 159–63.

[16] Since the larger steel and petroleum companies tend to have more stable financing patterns than the smaller companies, and since the volatility of financing patterns in the two industries tends to be a function of the capital expenditure rate, there would appear to be a broad correlation between size of company and stability of capital spending. See Michael Gort, "Capital Financing in Petroleum and Steel," in Solomon Fabricant, ed., *Basic Research and the Analysis of Current Business Conditions* (New York: National Bureau of Economic Research, May 1956), pp. 41–3.

[17] See, for example, James R. Schlesinger, "Market Structure, Union Power, and Inflation," *Southern Economic Journal*, January 1958, XXIV, pp. 296–312; also his "A Note on Inflation," *Review of Economics and Statistics*, November 1958, XL, pp. 419–24.

and reducing susceptibility of shock through the growth in the size of the market and the transition from primary to secondary production, been of special importance in reducing appreciably the chances that the rate of increase in output can outstrip that of effective consumer demand. Moreover, a large number of the institutional changes have exerted their influence on stability of output in exactly the same manner (e.g., the increased production of national defense services, the higher rate of population growth, the spread of industry-wide collective bargaining, the changing age-distribution of the population, and the greater redistribution of income through the fiscal system).

Arguing that these structural and institutional changes have lessened the likelihood of effective supply increasing faster than effective demand is, in view of the extremely close and delicate relationship which has to exist between the rates of growth in production and consumption, merely another way of saying that these changes have increased the probability that the rate of expansion of effective demand can outrun that of effective supply. This, in turn, is tantamount to recognizing that the changes have imparted an additional inflationary bias to the economy—not necessarily in the sense of creating initial inflationary imbalances, as is true of the interaction of economic power blocs, but certainly in the sense of intensifying any inflationary tendencies which may otherwise exist and which, in any event, are always present during periods of virtually full employment.

A similar kind of two-edged effect applies in the cases of a) the higher rate of national spending for currently-produced goods and services that is associated with the growth in the relative size of the government sector and b) the increased possibilities of more stable spending patterns that have been brought about by the large corporation's institutionalization of technological innovation and extension of the business planning horizon. The effects of these changes tend to make themselves felt under economic conditions of all kinds, and besides contributing to the short-run stability of output and to the cushioning of deflationary shocks, they also serve, at other times, to strengthen any inflationary pressures which may be present in the economy. Indeed, insofar as the rate of spending in the business sector depends on the availability of funds, longer-range business and research procedures may actually be more persuasive in intensifying existing inflationary tendencies than in providing a cushion against possible deflationary imbalances.

IV. THE PROBLEM OF DEFLATIONARY IMBALANCE IN THE LIGHT OF INSTITUTIONAL AND STRUCTURAL CHANGE

That structural and institutional change may also have important implications for the problem of deflationary imbalance becomes apparent when one considers that a number of the factors which we have analyzed are the very same ones which were stressed by various economists in their attempts to explain the prolonged nature of the depression of the thirties. Our argument concerning the changing nature of autonomous investment, for example, embraces the ideas of the vanishing investment opportunity thesis of the secular stagnationists.[18] On the other hand, the institutional factors under consideration bear a close kinship to those which were emphasized by economists who refused to accept the notion of stagnation, but believed, nevertheless, that major institutional changes which impeded recovery had occurred in the economy.[19]

The vanishing investment opportunity argument need not imply secular stagnation, but can be re-interpreted to mean that the period of time which would have to elapse before natural economic forces bring about substantial recovery tends to be longer in the absence of rapid population growth, important new capital-absorbing industries, and a geographical frontier to be exploited.[20] The significance of such changes must be evaluated in terms of their impact on autonomous investment rather than on total capital formation. But since investment of this kind cannot be distinguished statistically from induced investment, the fact is that, when the most comprehensive critic of "economic matu-

[18] For an excellent abstract of the views of the leading exponent of this thesis, see Alvin H. Hansen, "The Stagnation Thesis," in Arthur Smithies and J. K. Butters, eds., *Readings in Fiscal Policy* (Homewood, Ill.: Richard D. Irwin, 1955), pp. 540–57.

[19] See, especially, Henry C. Simons, "Hansen on Fiscal Policy," *Journal of Political Economy*, April 1942, L, pp. 161–96.

[20] Compare, in this connection, the distinction between "cyclical stagnation" and "secular stagnation" that is made by Howard R. Smith, "The Status of Stagnation Theory—Part II," *Southern Economic Journal*, January 1949, XV, p. 301.

rity" believed that he had demonstrated that investments on the geographical frontier and in great new capital-absorbing industries had never been important enough historically to explain by themselves the low level of investment in the thirties, he did not necessarily prove anything of the sort.[21] Nevertheless, given (1) the era of technological revolution in which we are living and (2) the changes in autonomous demand which should accompany projected changes in the age-distribution of the population, one must remain skeptical about the importance of the future role of the decline in opportunities for extensive investment. It is ironic, indeed, to reach the conclusion that the structural changes stressed in the mature economy thesis seem to be influential primarily as stabilizing forces.[22]

A similar degree of optimism cannot, however, be applied in the case of institutional changes. The existence of monopolistic large-scale units in industry and labor implies an increased downward rigidity of prices and money wages, which leads, in turn, to a possible lengthening of the recovery period. Against this familiar disadvantage of decreased *structural* wage and price flexibility, there should be placed the equally well-known advantages of increased *cyclical* price inflexibility, which express themselves primarily through stabilizing repercussions on expectations and aggregate effective demand.[23] However, the comparative importance of these structural and cyclical components must be interpreted in the light of the vast expansion of the Government budget and the attendant growth of automatic stabilizers which has taken place since the thirties. To the extent that these stabilizers now independently place some sort of a floor under the economy, the advantages of increased cyclical price inflexibility are today—no matter what they may have been in earlier periods—clearly outweighed by the disadvantages of structural price inflexibility.

[21] George W. Terborgh, *The Bogey of Economic Maturity* (Chicago: Machinery and Allied Products Institute, 1945), pp. 67–71, 86–90.

[22] For a more pessimistic view of the adequacy of autonomous investment, see Robert A. Gordon, "Investment Opportunities in the United States Before and After World War II," in the *Business Cycle in the Post-War World, op. cit.*, pp. 283–310.

[23] For a discussion of cyclical vs. structural price flexibility, see, among others, Alvin H. Hansen, *Fiscal Policy and Business Cycles* (New York: W. W. Norton, 1941), chapter 15.

This consideration assumes additional importance when it is recognized that rigidities in the private sector have, if anything, become more pronounced since the nineteen thirties and are now accompanied by major government-created rigidities. Much of the economic legislation of the last twenty-five years, although undoubtedly contributing to the avoidance of serious recessions, might also work to prolong economic recovery in the event that a recession of a serious nature should occur. The agricultural support programs and the automatic stabilizers can, for example, easily be transformed into de-stabilizing forces if they are not successful in cushioning a decline. The automatic expansion of government revenues relative to cash expenditures which accompanies a rise in national income can act, not only to prevent excesses in a boom, but also to delay or dampen a recovery.[24]

The increased importance of rigidities, when taken together with the correspondingly greater relative significance of the structural component of price inflexibility, suggests that the really major change that has occurred in the nature of serious recession or depression has been in terms of a decreased *amplitude* of the downward movement. The forces determining the *duration* of a serious recession would appear to be as potent as they have always been, if not more so.

With excess capacity relative to full employment demand extending throughout a large part of the economy, there would be only a small chance that a large increase in the capital-goods requirements of some sector or sectors could compensate for the widespread decline in the demand for investment goods, and recovery of capital goods production would largely have to await the passage of time and resultant wearing out of plant and equipment. Although technological obsolescence might speed up this process to some extent, the introduction of new techniques would probably be hampered very much by a change in the basic psychology of businessmen to one of general bearishness brought about by the prolonged duration and almost universal character of the recession. Moreover, to the extent that capital formation did take place, its

[24] Cf. R. A. Musgrave and M. H. Miller, "Built-in Flexibility," in *Readings in Fiscal Policy, op. cit.*, p. 385. This does not necessarily hold true for all "automatic stabilizers." For example, to the extent that business investment spending is a function of business profits, any revival in profits would tend to induce further economic recovery.

income-creating effects would be partially offset, and perhaps even outweighed, by labor-saving or capital-saving effects—with the result of either an increase in technological unemployment or a decline in the demand for capital.

V. INSTITUTIONAL AND STRUCTURAL CHANGE AND THE DILEMMA OF GOVERNMENT POLICY

A review of the relationship of institutional and structural changes to (a) stability of output, (b) inflationary imbalance, and (c) deflationary imbalance suggests that the net effect of these changes is a tendency to perpetuate the *status quo* no matter whether the economy is broadly in balance or seriously out of balance. The experience of the postwar period provides ample evidence of reasonable cyclical stability of output and of intensification of inflationary imbalances, but for evidence of the prolongation of deflationary imbalances one has to go back to the nineteen thirties.

It is always possible, of course, that the "great depression" may have been a unique experience in terms, not only of its amplitude, but of its duration as well. On the other hand, the failure of any recession of serious duration to appear in the postwar period may simply be due to a temporary coincidence of factors or reflect the abnormal institutional expansion of the government sector associated with national defense expenditures. Moreover, the appearance of widespread overcapacity relative to demand at full employment levels must, in any event, be considered a future possibility. The existence of hyper-bullishness in an environment which is characterized by diversified decision-making and competition can create expectations on the part of each individual firm that it can obtain a larger share of a continuously expanding over-all market. As a result of the positive action taken on the basis of these individual expectations, and of the time-lags which normally exist between production and sales, entire industries might suddenly discover that their capacity was large enough to take care of the normal anticipated rate of increase in demand for a considerable number of years to come.[55]

The significance of a future contingency of this kind must be appraised against the Government's ability to produce recovery through compensatory policies. In a purely formal economic sense, there is no problem involved, for the government sector is just as much part of the national income as the private sector and can always be expanded directly to the extent necessary to assure full employment. However, the larger the expansion of the government sector, the smaller is the likelihood of subsequent reversibility and the greater are the chances that the scope for freedom of choice in private decision-making will be reduced below a tolerable minimum. Realistic fiscal policies must, accordingly, be defined in terms of a relatively limited expansion of the government sector being capable of inducing a considerable indirect expansion of the sector—the conditions for which do not, as a matter of definition, exist in a serious recession. As a consequence, the chances would be quite small that, in an economy where the labor force is growing, limited budgetary increases could produce a sufficiently large and rapid economic expansion to satisfy the demands of public opinion. Politically effective recovery could, under such conditions, only be brought about by an increase of the government sector so vast that it might, coming on top of the large growth that has already taken place, transform completely the nature of American political, social, and economic institutions.

The principal reliance for maintaining a reasonable amount of cyclical stability in output must, as a consequence, be placed on basic policies aimed at preventing the emergence of major deflationary imbalances. This, in turn, raises an important question about the comparative stabilizing roles played by the institutional and structural changes which we have discussed. To the extent that it can be assumed that the structural changes alone are sufficient to preserve a significant degree of cyclical stability of output, no major conflict in policy objectives would arise. And budgetary, antitrust, and labor policies could, if necessary, be revised substantially in order to reduce inflationary pressures. However, if one is unconvinced that economic experience justifies this assumption or fears that the risks which would be involved in making it are just too great, a serious policy

[55] Increased leisure through a shorter work week would, of course, act to reduce the chances of this happening. However, changes in the length of the work week tend to be discontinuous and sharply discrete and what is needed to prevent the appearance of major economic maladjustments is a relatively continuous process of adaptation to change.

dilemma does appear. As has been indicated above, there seems to be very little doubt that the institutional changes and budgetary arrangements which have contributed so much to the stability of output and to the cushioning of major deflationary imbalances are also extremely conducive to the creation and intensification of inflationary pressures.

The principal dilemma arising from institutional and structural change consists, therefore, of a significantly increased complexity of risk in the selection of economic policy alternatives. The choices involved are far more complicated than they appear in terms of the standard approach found in the literature and textbooks. The usual concept of a compensatory policy is predicated on both the effectiveness of marginal changes and the possibilities of flexibility and reversibility. However, it is unrealistic to assume that small changes in policy can counteract the effects of the sort of basic institutional arrangements with which our analysis has been concerned or that these arrangements are flexible enough to be varied over the cycle to any great extent. The chances of accomplishing the latter would appear to be greatest in the case of the Federal Budget, but even this would probably be impracticable since cyclical variation in expenditure of as much as twenty billion dollars could be necessary to avoid both inflationary and deflationary pressures.

It would, however, be a serious mistake to exaggerate the difficulties to the point of accepting the inevitability of inflation. This can still be controlled if society really wishes to do so, but the task has become considerably more difficult under existing and otherwise economically beneficial, institutional and legislative arrangements. What is needed for avoiding both the creation and intensification of inflationary pressures is a combination of two broad kinds of action: first, finding a way to curb the monopoly power of large units in industry and labor only up to, and not beyond, that extremely delicate point of balance where inroads would also be made into the very substantial contribution which these units have made to the stability of output; and secondly, recognizing that, with the non-applicability of the marginal approach to compensatory policies under modern conditions, such orthodox and neoorthodox financial prescriptions as budgetary balance or the maintenance of a small cash surplus are no longer sufficient to avoid inflation during periods of comparative prosperity and that what might well be required are such politically more unpalatable measures as the creation of a substantial budgetary surplus.

A REFORMULATION OF NAIVE PROFIT THEORY

MARTIN BRONFENBRENNER

University of Minnesota

"Gain is gain, however small."
Robert Browning, *Paracelsus*

I. NAIVE PROFIT THEORY AND ITS ECLIPSE

This essay is a salvage operation in the economics of distribution under purely competitive conditions. It is concerned with profit—"pure" profit as distinguished from implicit wages and interest, "normal" profit as distinguished from windfall and imperfectly-competitive components. It is therefore little more than a footnote to the economics of profit in the large—as seen by business-men or by their critics.

The naive profit theory which we think worth reconsideration enjoyed its heyday in elementary textbooks during roughly the first third of this century.[1] It survives as underpinning for policy pronouncements of a "capitalist-apologist" variety—a fate some consider worse than death. It is embodied in a set of propositions which we shall re-state:[2]

1. One of the distributive shares in a competitive economy is normal (pure, net, or necessary) profit.

2. This is usually a positive quantity in the long run, over and above implicit returns to any services or resources supplied by entrepreneurs to their own enterprises. (It may be zero or negative in the short run.)

3. Profit is a return to the related entrepreneurial functions of ultimate decision-making and ultimate uncertainty-bearing. The maker of ultimate decisions (bearer of ultimate uncertainties) is "the entrepreneur" who receives all profit in the long run.

4. The quantity which a firm seeks to maximize in its economic operations is the absolute size of the profit component.

5. In marginal-productivity terms, uncertainty-bearing or decision-making may be looked upon as a separate "factor of production" on the same footing as land, labor, or capital.

The first four of these propositions are the naive ones. They have substantial intuitive appeal, particularly in a world dominated by pro-

[1] In the late forties a survey of 32 English-language elementary economics texts showed 20 presenting some version of this naive theory. (J. Fred Weston, "Profit as the Payment for the Function of Uncertainty-Bearing," *Journal of Business*, 1949, XXII, p. 106.) The percentage would have been higher had Weston's survey been made a generation earlier.

What makes Weston's result remarkable is that neither Alfred Marshall nor J. B. Clark, from whom the theoretical sections of these texts are predominantly derived, adopted the naive theory of profit. Marshall's position is that profit vanishes in the long run, as per this passage from *Principles of Economics*, 8th ed. (London: Macmillan, 1920), p. 605 f.: "That share of the normal expenses of production of any commodity which is commonly classed as profits, is so controlled on every side by the action of the principle of substitution, that it cannot long diverge from the normal supply price of the capital needed, added to the normal supply price of the ability and energy required for managing the business, and lastly the normal supply price of that organization by which the appropriate business ability and the requisite capital are brought together."

Clark's *Distribution of Wealth* (New York: Macmillan, 1899), p. 70, is even more clear-cut; profit results from dynamic change. As far as static conditions are concerned, he says: "The prices that conform to the cost of production are, of course, those which give no clear profit to the entrepreneur. A business man whose goods sell at such rates will get wages for whatever amount of labor he may perform, and interest for any capital that he may furnish; but he will have nothing more to show in the way of gain."

Over and beyond business "common sense," the source for the naive theories of the textbooks may be the half-forgotten contributions of a half-forgotten American profit theorist of the century's opening decade, F. B. Hawley. On Hawley, see Frank H. Knight, *Risk, Uncertainty, and Profit* (Boston: Houghton Mifflin, 1921), pp. 41–45.

[2] We owe to Weston our most detailed classification of the principal strains of recent profit theory. ("The Profit Concept and Theory: A Restatement," *Journal of Political Economy*, 1954, LXII, p. 152.) In this classification, what we call the naive theory is class "R"—"profits are rewards for bearing uncertainty and risk." (To this position Weston is himself opposed.)

Alternative classifications of profit theories may be found in Knight, *op. cit.*, ch. 2, and in R. A. Gordon, "Enterprise, Profits, and the Modern Corporation" (originally published 1936) in B. F. Haley and William Fellner (eds.), *Readings in the Theory of Income Distribution* (Philadelphia: Blakiston, 1946), pp. 560–565.

prietorships and partnerships. (We shall however end by modifying all but the first.) The fifth proposition, more sophisticated and usually omitted from elementary expositions, attempts to fit profit into the Procrustean bed of marginal distribution theory. (We shall abandon it.)

For all its intuitive plausibility, this edifice has fallen into disrepair and disrepute. We may assemble certain of the principal considerations brought against naive profit theory, and outline certain of the rival positions.

1. In point of time, the initial crack in the structure was implicit in the "adding-up theorem" of distribution theory. This theorem applied the mathematics of the Euler theorem on homogeneous functions to show that there was nothing left over for profit if the production function were linear and homogeneous (with constant returns to scale). A later extension demonstrated the same theorem under conditions of long-run competitive equilibrium regardless of the form of the production function.[3]

2. The adding-up theorem seemed to require elevation of decision-making or uncertainty-bearing to separate factors of production. The most ambitious effort in this direction was Pigou's, in *Economics of Welfare*.[4] Pigou's artificial construction was highly tentative, and does not seem to have been followed up.

3. As these formal difficulties became apparent, two attacks on naive profit theory developed "within the family" of neo-classical economics, centering about the names of Joseph Schumpeter and Frank H. Knight. The earlier of the two, the Schumpeterian attack, reduced both uncertainty and profit to consequences of innovation, and defined entrepreneurship as the introduction and development of innovation.[5] The normal or necessary profits of the naive theory were replaced by the windfalls of the innovator. Monopoly and similar profits, when not traceable to innovation, are defined out of the picture as rents or surpluses.

Knight's position, as stated in ***Risk, Uncertainty, and Profit***, provides the basis for the more sophisticated versions of contemporary orthodoxy in profit theory.[6] If we may paraphrase Knight and his disciples (of whom Weston has spelled out his own position in greatest detail),[7] profit stems from uncertainty or non-insurable risk. It pervades the entire society, being borne not only by a special entrepreneurial class but by everyone in the economy. It results in positive or negative increments to all incomes from whatever source derived;[8] it is these which Knight calls profit. These elements of profit are not only unplanned but unanticipated. Knight therefore regards them as differences between incomes in disequilibrium and at equilibrium, or between incomes *ex post* and *ex ante*, rather than as compensations for uncertainty-bearing. There is in any event no profit component in distribution, only profit elements in all types of income. As a corollary, the attempt to locate within a corporate body any "entrepreneur" with paramount claim to profit is to look in a dark room for a black cat which is not there. As another corollary, it is

[3] The statement and proof of the Euler theorem most available to economists is by R. G. D. Allen, *Mathematical Analysis for Economists* (London: Macmillan, 1938), pp. 317–320. For a history of its application to distribution theory the standard source is George J. Stigler, *Production and Distribution Theories* (New York: Macmillan, 1941), ch. xii. See also J. R. Hicks, *Theory of Wages* (London: Macmillan, 1932), pp. 233–236, and Joan Robinson, "Euler's Theorem and the Problem of Distribution," (originally published 1934), *Collected Economic Papers* (New York: Kelley, 1951), pp. 1–18.

The later extension is due primarily to Hicks (*op. cit.*, p. 237 f.), although the basic insights had been suggested earlier by Walras and Wicksell. Compare also Paul A. Samuelson, *Foundations of Economic Analysis* (Cambridge, Mass.: Harvard University Press, 1947), pp. 81–89.

[4] A. C. Pigou, *op. cit.*, fourth ed. (London: Macmillan, 1932), pp. 161–164, 771–781.

[5] Joseph A. Schumpeter, *The Theory of Economic Development*, originally published 1912 (Cambridge, Mass.: Harvard University Press, 1934), *passim*. In the Weston classification (Note 2) this theory is placed in category E—"profits are payments for the exercise of managerial or entrepreneurial functions." Knight has pointed out in *Risk, Uncertainty, and Profit*, pp. 32–41, and again in an article, "Profit," in *Encyclopaedia of the Social Sciences*, reprinted in Haley and Fellner, *op. cit.*, p. 540, that Schumpeter's profit theory was to some extent anticipated in Clark, *Distribution of Wealth*, ch. vi, xxv f.

[6] In the Weston classification, Knight and his followers are placed in category U—"profits are deviations arising from uncertainty" between earnings *ex poste* and *ex ante*.

[7] Weston, "Profit as the Payment for the Function of Uncertainty-Bearing" and "Enterprise and Profit," *Journal of Business*, 1949, XXII, "A Generalized Uncertainty Theory of Profit," *American Economic Review*, 1940, XL, "The Profit Concept and Theory," *Journal of Political Economy*, 1954, LXII.

[8] However, "in the case of the owner of the business the difference is the entire income, since under perfect equilibrium the owner as such would have no functions and receive no income." Knight, "Profit," p. 537.

meaningless in Knightian language to speak of a firm "maximizing profit" except as a shorthand for maximizing "enterprise net income" to all implicit (non-purchased) productive services lumped together.

4. The naive theory of profit includes no unequivocal notion of entrepreneurship. Some treat it as primarily a matter of risk- or uncertainty-bearing, others as primarily a matter of decision-making, others as primarily a matter of organization of the factors of production, and yet others as necessary combinations of a number of these activities.[9] None of these concepts proved equal to the task of identifying the entrepreneur in a corporate regime. In a corporate system, ultimate decision-making and organization came to rest mainly on salaried managers with little ownership interest, and ultimate uncertainty-bearing upon absentee stockholders. The distribution of the corporate usufruct, moreover, was difficult to rationalize by any combination of "uncertainty-bearing," "decision-making," or "factor-organization" principles. To use a catch phrase, ownership had become separated from control. The theory of profit and entrepreneurship which assumed the two to be united, now appeared both anachronistic and apologetic, a textbook embalming of the "folklore of capitalism."[10] Nor was a substitute theory helpful, which allocated the entrepreneurial functions to an artificial personage, the firm itself.[11] This theory gives no clue to the allocation or distribution of profit among the natural persons of the firm's ownership and control groups, and leaves this whole issue to the indeterminacy of corporate infighting.

5. Largely as a result of the diffusion of entrepreneurship, there has arisen a set of sociological or institutional profit theories. These have developed in several forms,[12] although no institutionalist Schumpeter or sociological Knight has yet created a school.[13] Writers of these persuasions agree in defining as profits accountants' "business net income,"[14] including all returns to implicit productive services, all corporate income and profits taxes, and all retained earnings. They usually stress, also, the class distinctions between "profit-receivers" in this sense and such other classes as "wage-earners" and "rentiers."[15] From these class considerations arises, in their view, the principal justification for lumping profit-receivers' diverse income types together under the single head of profit. For some writers, too, such notions as entrepreneurship and pure competition smack of apologetics rather than science. Their views of profit accordingly involve exploitation theorizing in a Socialist tradition.[16]

II. A REFORMULATION OF THE NAIVE THEORY

This essay arises from dissatisfaction with Schumpeter, with Knight, and with the institu-

---

[9] Once again we turn to Weston for detailed bibliography. "Enterprise and Profit," p. 158 f.

[10] The inapplicability of traditional profit theory to the corporate regime is the basic argument of, *inter alia*, Gordon's attack upon it. (Gordon, *op. cit.*, pp. 558-570.)

[11] James H. Stauss, "The Entrepreneur: The Firm," *Journal of Political Economy*, 1944, LII, pp. 112-127; Richard M. Davis, "The Current State of Profit Theory," *American Economic Review*, 1951, XLI, p. 251 f. In the Weston classification, this strain of thought is related to the category Q—"profits are unimputable quasi-rents." See Weston, "Profit Concept and Theory," pp. 152, 166-68.

[12] What are called here sociological or institutional theories include not only Weston's category A—"profits are the difference between accounting revenues and costs," but also categories MC, MN, and W—"profits are gains from 'contrived' monopolistic and predatory activities," "profits are surpluses or rents resulting from uncertainty, indivisibilities, and other 'natural' barriers to entry," and "profits are payments derived from the ownership of productive assets." "The Profit Concept and Theory," p. 152.

[13] See however Paul Streeten, "The Theory of Profit," *Manchester School*, 1949, XVII; R. G. Hawtrey, "The Nature of Profit," *Economic Journal*, 1951, LXI; Jean Marchal, "Essai de construction d'une théorie nouvelle du profit," *Bulletin des Transports* (1952), of which an English translation appeared in the *American Economic Review* the preceding year (1951); Peter L. Bernstein, "Profit Theory—Where Do We Go From Here?" *Quarterly Journal of Economics*, 1953, LXVII; Anatol Murad, "Questions for Profit Theory," *American Journal of Economics and Sociology*, 1953, XIII. These writers' positions do not coincide, as may be seen by Bernstein's criticism of Marchal (*op. cit.*, p. 409 f.) and Murad's attempts to found an aggregative profit theory on Keynes' *Treatise on Money* (Murad, *op. cit.*, pp. 8-10).

[14] The contemporary Western accountant shuns the controversial term "profit" in favor of more colorless concepts like "earnings" or "income." (Cf. Weston, "Profit Concept and Theory," p. 165.) At the same time, Soviet accountants and economists use the term freely and theorize regarding its role in their own society.

[15] This particular point is made by Knight as clearly as by any of the institutionalist writers "Under the enterprise system, a special social class, the business men, direct economic activity; they are in the strict sense the producers, while the great mass of the population merely furnish them with productive services, placing their persons and their property at the disposal of this class." (*Risk, Uncertainty, and Profit*, p. 271.)

[16] Marchal and Murad are examples here.

tionalists. Payments most conveniently regarded as profits apparently persist without justification in Schumpeterian innovation. Business men and promoters continue to estimate profits *ex ante* in defiance of Knightian usage, and the public continues to think of profit as largely the special income of a special class of society. Knight's theory can also be criticized as particularly heavily insulated from both empirical testing and empirical relevance. At the same time the accounting category of "net income" combines elements so numerous and weighted so differently as between firms as to cast doubt on the analytical usefulness of the institutional theories. In this predicament, when both sophistication and iconoclasm seem to fail us, let us explore what can be done by naivete and simplemindedness.

We consider a static society with constant population, tastes, natural resources, social institutions (of a capitalist sort), and an unchanging range of technical alternatives available for use. The society is purely competitive, with complete divisibility of all inputs and outputs, mobility sufficient to assure a single price for most goods and services on each market at any point in time, and full knowledge of all existing prices. The society is not however stationary. Capital may be accumulating or decumulating. The perfection of knowledge does not extend beyond present prices either to cost and production relationships or to the future, although we assume all elasticities of expectations[17] unitary or fractional for the sake of stability. We have in short uncertainty without innovation.

What is this uncertainty about? Fundamentally, about two matters just mentioned: (1) The amount, nature, and consequences of capital accumulation (even with no change in the spectrum of available techniques)[18] and (2) the forms and coefficients of cost and production functions. (There is no need to forget about the vagaries of weather, the breakdown of machinery, the occurrence of illness and accident, or the consequences of variations in morale.) There is assumed to exist no economically efficient method of transforming any significant part of this uncertainty into insurable or otherwise transferable risk.

We follow tradition in considering only a competitive state of things, and only the long run. Imperfect competition and short-run windfalls are admittedly at the heart of concrete problems, but we have no contribution to their unsatisfactory treatment in economic theory. We further eschew the classical commingling of profit with interest, the Marxian commingling of profit with property income generally, and the accountants' commingling of profit with implicit returns to productive services generally.

Starting from this compromising sort of framework, we can outline a compromising sort of profit theory. We divide economic uncertainties into those giving rise to profit and those affecting other resource incomes. This differentiation seems to permit re-establishment of normal profit, positive or negative, as a separate income share. This is a "specialized" uncertainty theory as distinguished from Weston's "generalized" one. It is derived primarily from the confrontation of the naive theories of the textbooks with the sophisticated theories of Knight and his followers in particular. Given this specialized uncertainty theory, it is possible to make peace with marginal analysis and its adding-up theorem, and to consider *en passant* such problems as the meaningfulness of "profit maximizing" and the identification of "the entrepreneur" in a corporate setting.

Of the thousand natural shocks (and uncertainties) that flesh is heir to, those compensated by profit are neither the most pervasive nor the most significant. Considerations of uncertainty alter (in both directions) the supply and demand conditions for all goods and services. The net effect of uncertainty on prices and incomes is itself uncertain. We propose to consider profit as compensation for merely the subset of uncertainties which arises from having no contractual claim to one's income either per hour of labor, per "piece" of product, or per unit of land or capital. We concentrate therefore upon the incomes of those who accept as residual claimants part or all of what is left after contractual claims are honored and contractual claimants

[17] See Hicks, *Value and Capital* (Oxford: Oxford University Press, 1939), pp. 205–207.

[18] We cannot accept a Knightian dictum: "Many changes, such as the steady growth of population and capital, are fairly predictable, and to a corresponding extent do not occasion imperfect competition or profit." (Profit," p. 541; see also *Risk, Uncertainty, and Profit*, pp. 35–38.) This is more true for the statistician dealing with the economy as a whole than for the business man in any particular branch of trade.

paid.[19] This is not to imply, at one extreme, that contractual claims are always honored or enforced. Varying degrees of uncertainty, called premia rather than profit, attend the fact that particular contracts may be neither honored nor enforceable. Neither is it accurate, at the other extreme, to confine the profit-receiver's risk to the tautological one of not making his profit. He bears in addition the risk of a possible loss on income account, meaning a smaller income than his services or profit would have brought contractually. Further, if property has been contributed non-contractually, the uncertainty-bearer may also lose on capital account by the writing down or wiping out of the value of his assets when a debt investment would have protected him.

For the special purposes of profit theory let us classify productive inputs not into the usual "factors of production" but into "contractual" and "entrepreneurial" categories, according as their remuneration is or is not determined contractually.[20] This terminology identifies entrepreneurship not with managerial, organizational, or innovational responsibilities, but exclusively with the precarious nature of its legal claims. In a partnership entrepreneurship is divided between all partners, silent as well as active. In a corporation it is allocated to common stockholders, coupon-clippers included. (We recall the concept of "drone entrepreneurship," devised in a different setting.[21]) Managers and directors are not in this terminology entrepreneurs except as they are also stockholders. Still less is the entrepreneur "the firm" or any corporate entity abstracted from the people connected with it.

An entrepreneurial service has in pure competition a highly imperfect market, on which several different prices may prevail simultaneously. This is not only because these services are unstandardized, but for special reasons peculiar to the entrepreneurial position. Many of the transactions are implicit, with a resource owner dealing with himself in his other capacity of business manager; demand and supply are identical and neutral equilibrium prevails. In addition, the "price" or "rate of return" of the entrepreneurial service cannot be a contracted, set, or recorded market price or rate of return. It is merely a consensus as to the expected price or rate of return. The expectations and the prices are imprecise; when the buyer and seller deal at arm's length, they may not hold the same expectations. To put the matter geometrically, any "equilibrium position" involves a range, a zone, or a set of points, and not a single point. We shall however use the single-point approximation since, to quote Marshall:[22]

> The adjustment of supply to demand in the case of business ability is somewhat hindered by the difficulty of ascertaining exactly what is the price that is being paid for it in any trade.... But though it may be difficult to read the lessons of an individ-

[19] This view is not original. Knight presents it as a "compromise position" between the "theoretical" view of profit (his own uncertainty theory) and the "practical" one which identifies economic profit with the accountant's "business net income." ("Profit," p. 537 f.) Weston likewise considers this view briefly ("Profit Concept and Theory," p. 167 f).

A word regarding these writers' objections to our position is in order. Knight points out that profit (as he defines it) may be concealed in inflated contractual incomes of "insiders." Weston raises the objection that *all* incomes would be gross profit if institutional arrangements should eliminate the possibility of contractual claims to income. Knight's objection seems valid mainly if not exclusively under conditions of imperfect competition, while Weston's non-contractual world seems inconsistent quite generally with the institutions of an enterprise economy.

[20] This classification is no more water-tight than are most others. We may consider certain intermediate cases:

a. The *preferred stockholder* has a contractual claim, albeit a contingent one. In this he is in a position analogous to that of a salesman on commission.

b. The *convertible bondholder* has a contractual claim, with the privilege of exchanging it on stated terms for an entrepreneurial claim at some future time.

c. The *salaried partner* provides entrepreneurial resources so long as the partnership is in existence, since his claim is not enforceable generally until after the partnership is dissolved. If the partnership goes out of business with his salary in arrears, the salaried partner may then shift to a contractual position.

d. The *executive on the bonus list* is in a hybrid position. He has a contractual claim to his salary. His claim to his bonus is entrepreneurial until it has been voted, and contractual thereafter.

e. The *participating preferred stockholder* is also in a hybrid position. As a preferred stockholder he has a contractual claim; his participation involves an entrepreneurial one.

[21] Clarence Danhof, "Observations on Entrepreneurship in Agriculture," cited by Yale Brozen, "Entrepreneurship and Technological Change," in Harold F. Williamson and John A. Buttrick (eds.), *Economic Development: Principles and Patterns* (New York: Prentice-Hall, 1954), p. 205.

[22] Marshall, *op. cit.*, p. 607 f.

ual trader's experience, those of a whole trade can never be completely hidden, and cannot be hidden at all for very long. . . . There is a general agreement among business men that the average rate of profits in a trade cannot rise or fall much without general attention being attracted to the change before long. And though it may sometimes be a more difficult task for a business man than for a skilled labourer to find out whether he could improve his prospects by changing his trade, yet the business man has great opportunities for discovering what can be found out about the present and future of other trades; and if he should wish to change his trade, he will generally be able to do so more easily than the skilled workman could.

We consider in turn each panel of Figure 1. The left-hand panel (Figure 1-a) relates the *internal* supply and demand for an entrepreneurial service or input to its anticipated gross return. The supply and demand functions are identical, since each entrepreneur as demander is buying entrepreneurial services from himself as supplier. The combined supply and demand function is represented by a single curve *DS*. This curve slopes upward in accordance with the general observation that high rates of gross profit result in increased business population, increased internal investment, and similar signs of increased use of productive services under non-contractual conditions.

The center panel (Figure 1-b) represents the *external* supply and demand for the same entrepreneurial service. The demand and supply functions are drawn in conventional shapes. The vertical ordinate *P* of their intersection indicates an equilibrium gross profit.

The right-hand panel (Figure 1-c) is the horizontal sum of the other two. It is drawn with the internal supply and demand dominant, so that both the aggregate supply and the aggregate demand function for the entrepreneurial service slope upward. The demand function slopes more steeply as a Hicksian stability condition. This is a common state of affairs in unincorporated businesses and closed corporations. For corporations whose securities are traded publicly, the external supply and demand are usually dominant. A company's demand function for equity capital is normally inverse to its rate of return.

The supply and demand functions cross at a point with ordinate *P* (an average value in a zone of equilibrium). This makes *OP* a gross

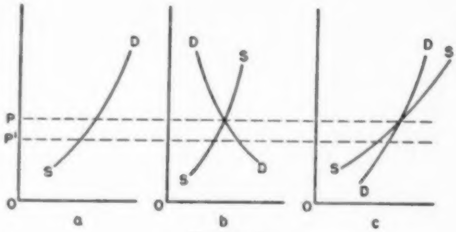

FIGURE 1

profit or gross return to the entrepreneurial service. Let *OP'* (on Figure 1) be the price of the physically identical service in its contractual uses.[23] *OP'* then represents the implicit contractual return to the entrepreneurial service, and *PP'* represents the net or normal profit which we seek to explain.

These diagrams have drawn *P* above *P'*, making the normal profit *PP'* a positive quantity. It may actually be positive, negative, or zero. Its sign depends on many things. What is the relative strength of the "insurance" motive for avoiding uncertainty as against the "gambling" motive for seeking it out?[24] Assuming the former motive to be the stronger at the margin for entrepreneurs as well as for college professors, what are its offsets?

A positive long-run net profit in a competitive industry may mean that the supply of entrepreneurial resources is *not* associated with such putative advantages as empire-building, tax-avoidance, or being one's own boss. (For the ordinary small-scale common stockholder, there is no such association.) If these attractions of "the entrepreneurial way of life" exist, their strength is insufficient to outweigh the dislike for uncertainty-bearing by the suppliers of services on non-contractual terms. The industry may also be believed to be facing deflation, obsolescence, or some other prospect which makes a

[23] We treat *OP'* as a constant, unchanging with the amount of the service used entrepreneurially. Dropping this assumption would require the drawing of the horizontal through *P'* as downward sloping, to allow for the effects of diminishing productivity.

[24] Compare in a different connection Milton Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk" (originally published 1948) in George J. Stigler and Kenneth E. Boulding (eds.), *Readings in Price Theory* (Homewood, Ill.: Irwin, 1952), pp. 57-96.

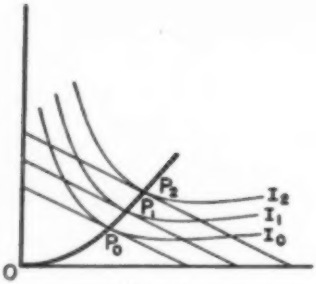

FIGURE 2

contractual position attractive as compared to an entrepreneurial one.

On the other hand, nothing in our analysis prevents P falling below P' (PP' becoming a negative quantity) either for another entrepreneurial service in the same industry, for the same entrepreneurial service in another industry, or for all entrepreneurial services in all competitive industries. This may mean that the supply of entrepreneurial services is associated strongly with some or all of the attractions mentioned in the last paragraph.[illegible] It may mean that entrepreneurs see uncertainty-bearing as a positive pleasure. Or it may mean that the industry (or the economy) is facing some prospect such as price inflation, which renders entrepreneurial positions abnormally attractive by comparison with contractual ones.

The preceding analysis shows how physically uniform productive services, types of labor or property, can command even under competition different remunerations when supplied entrepreneurially than their contractual market prices. These differentials cumulate to net, normal, or necessary profit. It can also be shown, using simple indifference analysis, how a firm's budget for a given productive service may be allocated between contractual and entrepreneurial sources of supply.

Both axes of Figure 2 measure quantities of a single productive service, available in unlimited amounts to the individual firm on either contractual or entrepreneurial terms.[illegible] Suppose that we are dealing with money capital, the Keynesian "finance." Funds supplied contractually (debt finance) are measured along the horizontal axis. Funds supplied entrepreneurially (equity finance) are measured along the vertical axis. The straight lines (price lines), drawn with a slope of less than 45 degrees to the horizontal, imply a higher price per dollar of equity than of debt finance. The family of indifference curves ($I_0, I_1, \cdots$) reflect no differences in the liquidity achieved in holding funds raised by the two methods, nor differences in the productivity of goods purchased with funds raised by the two methods. No such differences exist. The indifference curves reflect a variety of considerations in the minds of the management, outgrowths of the pervasiveness of uncertainty. There is a fear of excessive overhead charges for debt service in bad times if too much debt finance is used ("trading on the equity"). There is fear of dilution of both control and profit if too much reliance is put on equity finance. A firm may prefer a smaller volume of capital in the "right" proportions of debt to equity over a larger volume in the "wrong" proportions. A conventional form of indifference curves, with downward slope and upward concavity, accordingly appears plausible and is adopted on Figure 2. The points of tangency ($P_0, P_1, \cdots$) between price lines and indifference curves represent optimal divisions of different outlays budgeted for finance between contractual and entrepreneurial supplies. The expansion path connecting these points of tangency shows how this optimum varies with the size of the budget. For any budget, a weighted average price can be computed for finance as a whole. This weighted average price will be different from the market contractual interest rate. In our example, it will be higher.

We have yet to ask the question—how can normal profit be paid at all? We deal with long-run competitive equilibrium, and with production at minimum average cost. If all productive services receive the value of their marginal products, the entire product is distributed. Yet we have postulated differentials for profit positive or negative. Where do they come from, if they are positive? Where do they go, if they are negative?

[illegible] At least one profit theorist can cite personal experience (in commercial banking) to support the familiar proposition that many small business men and farmers accept deliberately, and with full knowledge of alternatives, situations in which normal profit is negative. Bernstein, *op. cit.*, pp. 409–411.

[illegible] No allowance is made here for such practical limitations as lack of access to equity capital markets, rationing of debt finance, or the Kalecki "principle of increasing risk."

Here our weighted averages of contractual and entrepreneurial prices for identical services come to our assistance. The competitive entrepreneur should be looked upon as adjusting the use of productive services so as to equate the values of the marginal products not to their contractual market prices but to weighted averages of contractual and entrepreneurial prices where these diverge and where entrepreneurial inputs are used. This simple device avoids conflict between the persistence of normal profit and the "adding-up theorem." It is consistent with an aspect of the capital market which has aroused comment over the years—the refusal of firms to borrow out to the margin set by contractual interest rates, when their equities earn substantially higher returns. It is equally consistent with the tendency of marginal firms to concentrate on entrepreneurial and avoid contractual inputs whenever possible. This is conventionally criticized as inefficient, but may result from negative normal profit in these enterprises. It may be good marginalism for such firms to consider entrepreneurial services as costing considerably less than the contractual market prices for the same services would suggest.

A welfare complication does however arise from our suggested change in received doctrine. When the competitive firm expands or contracts its output, the proportions normally change in which contractual and entrepreneurial units of identical resources are combined. (The points P_i on Figure 2 need not lie on a single radius vector.) If so, the weighted average price of some productive services to the firm will change with the firm's output, rising or falling as the case may be. Even under pure competition, then, the welfare analysis of the firm's expansion and contraction should involve the considerations now limited to the industry and to imperfect competition—restrictions and over-expansions of output inspired by price changes rather than by "efficiency." The same is true for technological adjustments by which contractual, entrepreneurial, and "mixed" inputs are substituted for each other. Here again firm and industry analysis, pure and imperfectly competitive analysis, move closer to each other in a way which threatens to some extent the conventional welfare economist's preference for pure competition under static conditions.

To present these complications in a form closer to the concrete, suppose that entrepreneurial services for a certain firm cost more than corresponding contractual ones. Suppose also that expansion requires a proportional shift of the firm's input mix in the entrepreneurial direction. This firm's expansion causes its weighted average input prices to rise against it, and vice versa for contraction. The firm will expand less or contract more than is required for optimum resource allocation, always operating below its theoretical optimum scale. Suppose next that the same firm is considering a substitution of machinery for labor at approximately the same level of output, machinery being a mixed and labor a purely contractual input. This substitution would raise the weighted average cost of capital against the firm, which would therefore tend to make it mechanize more slowly and less completely than efficiency would require.

III. ON OPTIMIZING PROFIT

We have listed five propositions which appear to embody the substance of naive profit theory. Proposition 1 we have accepted: "One of the distributive shares in a competitive economy is normal profit." Likewise Proposition 2: "This is usually a positive quantity in the long run, over and above implicit returns to any services or resources supplied by entrepreneurs to their own enterprises," with some doubts as to the positive sign. Proposition 3 defined profit as "a return to the related entrepreneurial functions of ultimate decision-making and ultimate uncertainty-bearing," which might have been combined as ultimate organizing. Our reformulation has modified this proposition considerably. Gone are decision-making and organizing as bases for profit.[27] Limited is uncertainty-bearing, in its relation to profit, to the assumption of non-contractual positions in the supply of services. As to entrepreneurship, it is scattered among suppliers of various productive services on entrepreneurial terms.[28] Proposition 5 suggests that

[27] Weston puts the case more strongly, ("Generalized Uncertainty Theory of Profit," p. 48): "The ultimate decision-makers in a firm need not be compensated as residual income receivers.... Judgment is an economic service. The principles explaining the compensation for this service are similar to the principles explaining the compensation for other services.... The exercise of judgment may be sold on a fixed-price basis or on a variable-price basis."

[28] Here we part company with Weston, who argues (*ibid.*, p. 47): "Non-contractual income receivers [may be] identified as entrepreneurs. The application of this term with its varied traditional

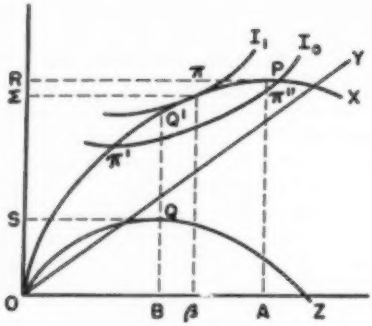

FIGURE 3

decision-making or uncertainty-bearing be regarded as a distinct "factor of production," and we have been able to dispense with this proposition entirely. We have as yet said nothing about Proposition 4, that firms seek to maximize total net profit.[29] In this section we shall consider that proposition in the light of our restatement of naive profit theory.

We may state three views baldly. The naive view we have seen already—the rational entrepreneur maximizing his net profit. Sophisticated (Knightian) profit theory has the firm maximizing its net receipts[30]—in our terms, the total return to its entrepreneurial inputs, gross of their contractual input prices. (Some such reformulation follows from the definition of profit as a differential between income *ex post* and *ex ante*, or between disequilibrium and equilibrium situations.)[31] "Organization theory" has the firm trying to maximize no quantifiable variable whatever, but instead to survive comfortably and securely as a good-sized organization.[32]

These three alternatives (which by no means exhaust their field) may lead to quite different results under given conditions, as is shown for example by Figure 3.[33] The horizontal axis of this diagram measures productive services supplied entrepreneurially; the vertical axis measures their income, gross in some cases and net in others. The alternatives open to the supplier of the entrepreneurial services are plotted as though single-valued on three curves *OX*, *OY*, and *OZ*. The curve *OX* is a path of gross profit; it is drawn with a maximum value *OR* when *OA* units are supplied. The ray *OY* measures the total return to the same service supplied contractually to outside firms under competitive conditions; it is a straight line without extreme values. The curve *OZ* is the vertical difference between *OX* and *OY*. In economic terms, it represents normal profit. It too has a maximum value *OS* (below *OR*) where *OB* units (less than *OA*) are supplied.[34]

connotations to a use in which functional activities perform no role, is likely to result in confusion.... It would be better if [entrepreneurship] were not used to describe various functional types of factors of production whose common attribute is the noncontractual nature of their returns."

[29] Literature on the realism and relevance of "profit maximization" and "maximizing behavior" generally has burgeoned since the late 1930's. Perhaps the earliest in a series of path-breaking articles was R. L. Hall and C. J. Hitch, "Price Theory and Business Behaviour," (originally published 1938), in T. Wilson and P. W. S. Andrews (eds.), *Oxford Studies in the Price Mechanism* (Oxford: Oxford University Press, 1951), ch. 3. A good bibliography of the ensuing controversy may be found in A. G. Papandreou, "Some Basic Problems in the Theory of the Firm," in B. F. Haley (ed.), *Survey of Contemporary Economics*, II (Homewood, Ill.: Irwin, 1952), pp. 205–213.

This writer has profited in this section from the technical contributions of William J. Baumol, Herbert A. Simon, and Tibor Scitovsky, the institutional contributions of Alfred R. Oxenfeldt and Melvin W. Reder, and the "rebuttals" of Armen A. Alchian, James S. Earley, Milton Friedman, and Fritz Machlup. The nature of some of these debts will be clarified below.

[30] Thus Friedman, "The Methodology of Positive Economics," in *Essays in Positive Economics* (Chicago: University of Chicago Press, 1953), p. 21: "Under a wide range of circumstances individual firms behave *as if* they were seeking rationally to maximize their expected returns (generally if misleadingly called 'profits') and had full knowledge of the data needed to succeed in this attempt." And in a footnote to the above passage: " 'Profits' are a result of uncertainty and ... cannot be deliberately maximized in advance."

[31] Weston puts this point in italics ("Generalized Uncertainty Theory of Profit," p. 54): "*To attribute a central role to profit maximization in static equilibrium analysis must lead to confusion because static analysis abstracts from the very conditions which give rise to profit*" (in Knightian terms).

[32] Compare Simon, *Administrative Behavior* (New York: Macmillan, 1947), ch. 4, and *Models of Man* (New York: Wiley, 1957), ch. 10. A compromise position is presented for oligopoly cases in Baumol, *Business Behavior, Value and Growth* (New York: Macmillan, 1959), ch. 4, 6–8.

[33] This diagram is based on Scitovsky, "A Note on Profit Maximization and Its Implications," (originally published 1943) in Stigler and Boulding, *op. cit.*, Figure 2, p. 354.

[34] It may be useful to present a generalization of this proposition, which is elementary but has many applications:

Let $u = f(x)$ be a function with negative second derivatives over the relevant range, and let $v = g(x)$ be a monotone increasing function. Let u have a maximum at x_1 such that $f'(x_1) = 0$, and let $(u - v)$ have a maximum at x_2 such that $f'(x_2) -$

According to the naive theory, the firm will aim at point Q, with co-ordinates (OB, OS) at which net profit is maximized. According to the sophisticated theory, more entrepreneurial services will be used and the firm will aim at point P, with co-ordinates (OA, OR) at which net revenue or gross profit is maximized. The two theories give the same result when the quantity of entrepreneurial services is fixed. This case may be the one which Knight and his followers have in mind.

Introduce now a set of indifference curves (I_0, I_1, $\cdots$) expressing reluctance to supply services entrepreneurially, at least beyond a certain point, and expressing also a preference for higher income from any quantity of services so supplied. Geometrically, the indifference curves slope upward with upward concavity. In economic terms, this construction may represent not only aversion to uncertainty-bearing, but tax considerations, devotion to the Hicksian "quiet life," smallness of scale as an end in itself, *rentier* irresponsibility, etc.

In any event, there is generally an "optimizing" tangency point π, with co-ordinates ($O\beta$, $O\Sigma$). This is the point which we maintain that the firm will set as its goal. This point is clearly to the southwest of, and involves smaller supplies of entrepreneurial services than, the point P which the sophisticated theory sets up as the firm's target. We cannot generalize about its relationship to point Q' (the projection of Q on OX) which the naive theory sets up as the firm's target. On the diagram point π lies between points P and Q'.

An interpretation of Simon's organization-theory position may also be presented on Figure 3. Suppose that the firm expects to survive with reasonable comfort and security as an organization at any combination of entrepreneurial services and income on or above the indifference curve I_0 (which must cross or touch OX). Suppose further that I_0 crosses OX at two points π' and π'', to the left and right of π. Then according to organization theory any point along OX between the limits π' and π'' is analytically as likely as any other, choice between them being a matter of historical accident. The professional bias of the economist tends to hope for something which will narrow the range of "satisficing" behavior; Baumol's "revenue maximization hypothesis"[28] may be interpreted to suggest that the neighborhood immediately to the left of π'' is more likely than that immediately to the right of π'.

But these are matters for possible empirical testing. At the abstract level of the present discussion, our introductory Proposition 4 (the naive theory of profit maximization) seems to require modification less from sophisticated theories of profit than from notions of "optimizing" rather than "maximizing" profit however defined and isolated.

$g'(x_2) = 0$. Then $x_1 > x_2$, from the negative sign of $f''(x)$.

[28] Baumol, *op. cit.*, ch. 6.

COMMUNICATIONS

SUBSTITUTION EFFECT IN VALUE THEORY: A PEDAGOGICAL NOTE

1. Introduction. The substitution effect in value theory is justly famous as Slutsky's so-called residual variability.[1] The mathematical properties of this term have been completely developed and, at least since Samuelson's *Foundations*,[2] there has been no reason for additional research. On the other hand, the graphical presentation of the substitution effect is apparently neither widely known nor well understood. I have found only two American textbooks in which the correct graphical explanation is presented.[3] Since most graduate and undergraduate classroom work relies upon graphical devices, the extent of the error is presumably great. Furthermore, a mistaken presentation of the substitution effect probably robs ordinal value theory of half of its advantages and also masks an important relationship between the income effect and the so-called compensating and equivalent variations.

I am sure that most will agree that the ordinal theory of consumer behavior is superior to the older cardinalism in two ways. First, it has the philosophical advantage of a smaller number of axioms. Secondly, ordinal value theory has led to a theory of complementarity which places emphasis upon commodity relationships that prevail for a given and constant level of real income. The Edgeworth-Pareto-Fisher theory of complementarity allowed the consumer to jump from one utility level to another, so that commodities which were in fact substitutes might well seem to be complements. This could come about because the change in real income incident to a decrease in the price of X might cause a gross increase in the purchase of the actual substitute good Y. It is on precisely this point that most graphical treatments of the substitution effect themselves fail.

Consequently, correct graphical treatment of the substitution effect is necessary if the theory of complementarity is to be understood. There is a further advantage also. When the substitution effect is properly shown, it may be measured in quantity units, as it should be. Then the income effect may also be measured in quantity units, and one immediately sees that the income effect and the equivalent variation are but two sides of the same coin. In addition, a close relationship between the income effect and the compensating variation becomes apparent. A direct unification of the theory of complementarity and the theory of consumer's surplus is accordingly possible. To my knowledge this has never been pointed out, although it is clearly implied in a paper by R. W. Pfouts.[4]

The purpose of this communication is to show the correct graphical analysis of the substitution effect. It is addressed chiefly to instructors of intermediate and graduate courses in microanalysis. In Section 2 there is a sketch of the historical development and a correct graphical presentation. Section 3 is a mathematical note which clarifies the issue, and the concluding section is devoted to the relationship between income effect and the compensating and equivalent variations.

2. Graphical Analysis of the Substitution Effect. Since most intermediate and graduate courses in microanalysis begin with Hicks' *Value and Capital*,[5] I shall take this as the starting point. In the text of *Value and Capital*, Hicks illustrates the substitution effect by a graph which is reproduced as Figure 1. Hicks says that "When the price of X falls, the consumer moves along the price-consumption curve from P to Q. We now see that

[1] E. E. Slutsky, "Sulla teoria del bilancio del consumotore," *Giornale degli economisti*, LI (1915), esp. pp. 62–65.

[2] Paul A. Samuelson, *Foundations of Economic Analysis* (Cambridge: Harvard University Press, 1947), esp. pp. 100–07.

[3] This does not include texts in Principles of Economics; only texts in intermediate and advanced theory were surveyed. The correct texts are James M. Henderson and Richard E. Quandt, *Microeconomic Analysis: A Mathematical Approach* (New York: McGraw-Hill Book Company, 1958), p. 26; and Sidney Weintraub, *Price Theory* (New York: Pitman Publishing Corporation, 1949), pp. 15–6. Most English texts are correct. See, for example, Stonier and Hague, *A Textbook of Economic Theory* (London: Longmans, Green & Co., 1955), pp. 57–9.

[4] R. W. Pfouts, "A Critique of Some Recent Contributions to the Theory of Consumers' Surplus," *Southern Economic Journal*, January 1953, XIX, pp. 315–33.

[5] New York: Oxford University Press, 2nd ed., 1946.

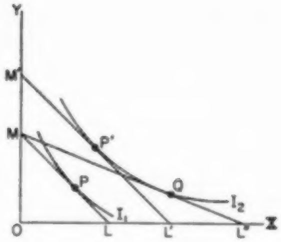

FIGURE 1

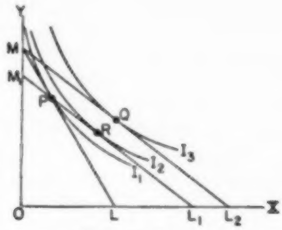

FIGURE 2

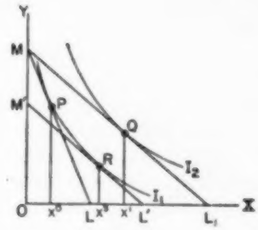

FIGURE 3

this movement from P to Q is equivalent to a movement from P to P' along the income-consumption curve, and a movement from P' to Q along an indifference curve. We shall find it very instructive to think of the effect of price on demand as falling into these two separate parts."[6] According to Hicks, the movement from P to P' represents the income effect and the further movement from P' to Q depicts the substitution effect.

But Figure 1 and this statement do not at all correspond to Hicks' subsequent discussion. On page 44, he goes on to say that "... an extra unit of X definitely lowers the marginal rate of substitution of X for money only if the extra unit is substituted for money in such a way as to leave the consumer *no better off than before*." Hicks next defines substitutes and complements in terms of movements along the original indifference curve. In Figure 1, however, the consumer jumps from I_1 to I_2 *before* the substitution takes place. Thus Figure 1 is clearly an erroneous graphical representation of substitution.

Hicks also treated the substitution effect in his Mathematical Appendix. The literary statement here is different from the text, and it has apparently caused several writers to give a second, but nevertheless erroneous, graphical explanation of the substitution effect. In particular, Hicks said that "... the substitution term represents the effect on the demand for X of a change in the price of X *combined with such a change in income as would enable the consumer, if he chose, to buy the same quantities of all goods as before*, in spite of the change in the price of X."[7]

The interpretation in the Mathematical Appendix was given graphical form by Schultz and Mosak[8] and now appears in some textbooks. Figure 2 is reproduced from Mosak. The point P on I_1 is the original equilibrium given the income and price ratio corresponding to ML. A decrease in the relative price of X, as shown by ML_2, causes an ultimate move to Q on I_3. Now according to Hicks of the Appendix, imagine that the consumer's income is so changed that he could just purchase the quantities associated with the point P at the new price ratio OM/OL_2. Then he would actually come to equilibrium at R on I_2. The interpretation is accordingly that the movement from P to R is the substitution effect, and the movement from R to Q represents the income effect.

The graphical device in Figure 2 is also incorrect. The consumer is still permitted to change his level of real income *before* the substitution effect is reckoned. Samuelson gives the correct interpretation: "In words, [the substitution term] is the change in the quantity of good X with respect to the price of X, *where the individual moves along the same indifference locus* and keeps his expenditure down to a minimum before and after the change in price."[9]

The correct graphical representation of the substitution effect, corresponding to Samuelson's interpretation, is shown in Figure 3. As in Figure 2, the original equilibrium is at point P. A decrease in the price of X shifts the budget line to ML_1 and the equilibrium to Q. The budget line $M'L'$ represents the income (after compensation) which would enable the consumer to maintain his original real income after the price change. The movement from P to R along I_1 accordingly corresponds to the substitution effect. The shift in

[6] *Ibid.*, p. 31.

[7] *Ibid.*, p. 309. Notation changed to conform with Figure 1. (Italics mine.)

[8] Henry Schultz, *The Theory and Measurement of Demand* (Chicago: University of Chicago Press, 1938), pp. 41–5; Jacob L. Mosak, *General-Equilibrium Theory in International Trade* (Bloomington: Principia Press, 1944), pp. 20–1.

[9] *Op. cit.*, pp. 103–04. Notation changed to conform with Figure 3. (Italics mine.)

real income is then represented by the movement from R on I_1 to Q on I_2.

3. Mathematical Note. The erroneous graphical interpretation presumably comes from a misunderstanding of the terms in the so-called Fundamental Equation of Value Theory. This may be set out very quickly. Consider a consumer who may choose from n goods at fixed prices $p_1, p_2, \cdots, p_n$. Let his money income be

$$M = \sum_j p_j x_j, \tag{1}$$

and let

$$u = u(x_1, x_2, \cdots, x_n) \tag{2}$$

be an ordinal index of preference for this consumer.

Maximization of (2) subject to (1) leads to the n equations

$$u_i = \lambda p_i, \qquad (i = 1, 2, \cdots, n) \tag{3}$$

where $u_i = \partial u/\partial x_i$ and λ is a Lagrange multiplier. Equations (3), together with equation (1), provide $n + 1$ equations to solve for the $n + 1$ unknowns $x_1, x_2, \cdots, x_n, \lambda$. For stability of equilibrium, it is necessary and sufficient that the elements of

$$[U] = \begin{bmatrix} 0 & u_i \\ u_j & u_{ij} \end{bmatrix} (i, j = 1, 2, \cdots, n) \tag{4}$$

be associated with a quadratic form which is negative definite under one constraint.

The effect of a change in money income upon quantities demanded may be determined by taking the partial derivatives of (3) and (1) with respect to M (holding prices constant) and solving by Cramer's Rule. A typical solution term is

$$\partial x_i/\partial M = \lambda U_i/U, \tag{5}$$

where U_i is the cofactor of u_i in $[U]$ and U is the determinant of $[U]$. Let us reemphasize at this point that prices are held constant, so that $\partial x_i/\partial M$ may be written as $[\partial x_i/\partial M]_{dp=0}$. Similarly, the effect of a price change on quantities demanded is found by taking the partial derivatives with respect to (say) p_i and solving by Cramer's Rule. A typical term is

$$\partial x_i/\partial p_i = (-\lambda x_i U_i + \lambda U_{ii})/U. \tag{6}$$

Substituting (5) into (6), one obtains the Fundamental Equation of Value Theory:

$$\partial x_i/\partial p_i = -x_i(\partial x_i/\partial M) + \lambda(U_{ii}/U). \tag{7}$$

Set $\lambda(U_{ii}/U) = K_{ii}$; this expression is the substitution term.

Let us next consider the change in M which is attributable to a change in the price of the i-th good, the prices of all other goods remaining constant. From equation (7) this is seen to be

$$\frac{\partial M}{\partial p_i} = x_i + \sum_j p_j \left(\frac{\partial x_j}{\partial p_i}\right). \tag{8}$$

Equation (8) holds in all cases; but we are especially interested in its representation in the special case in which the utility index does not change. To this end, let us now constrain the individual to move along the same (original) indifference surface in face of a change in the i-th price, all other prices unchanged. From equation (2) we find that

$$du = \sum_j u_j \left(\frac{\partial x_j}{\partial p_i}\right) dp_i = 0, \tag{9}$$

or using (3),

$$du = \lambda \left[\sum_j p_j \left(\frac{\partial x_j}{\partial p_i}\right)\right] dp_i = 0. \tag{10}$$

Since λ, the marginal utility of money, is positive and since $dp_i \neq 0$ by hypothesis, the summed product in brackets in equation (10) must equal zero. Notice that this is not generally true; but it is true for the special case in which the consumer maintains equilibrium positions on the same indifference surface under different price regimes.

Using the information gained from equation (10) in equation (8), it is evident that

$$x_i = (\partial M/\partial p_i)_{du=0}. \tag{11}$$

Finally, we may rewrite (7) using the definition of K_{ii} and equation (11):

$$K_{ii} = \partial x_i/\partial p_i + [\partial x_i/\partial M]_{dp=0} [\partial M/\partial p_i]_{du=0}. \tag{12}$$

The first term on the right in (12) is the total effect, the full change in quantity demanded resulting from a change in price. In terms of Figure 3, the total effect corresponds to the movement from P to Q; or in other words, it is the movement from x^0 to x^1.

The second term on the right is the income effect. The first component shows the change in the quantity demanded of X_i per unit change in M, all prices held constant. The second component, in turn, gives the change in M per unit change in p_i, the level of satisfaction held con-

stant. That is, the second component shows the number of units by which M must change for a unit change in p_i in order to maintain the level of real income constant. The product of the two components accordingly gives the number of units by which quantity must change (the compensation) per unit change in p_i in order to restrict the consumer to the original indifference locus. Alternatively stated, the income effect is measured by the change in quantity demanded induced exclusively by the change in real income which moves the consumer from one potential equilibrium to another. It is therefore given by $x^1 - x^s$, or it corresponds to the movement from R to Q in Figure 3.

The substitution effect is therefore $x^s - x^0$, as represented by the movement from P to R along I_1. We may accordingly rewrite (12) in its most suggestive form:

$$(13) \quad K_{ii} = [\partial x_i/\partial p_i]_{du=0} = \partial x_i/\partial p_i + [\partial x_i/\partial M]_{dp=0}\,[\partial M/\partial p_i]_{du=0}\,.$$

In closing this section I wish to reiterate that the proper graphical illustration of the substitution effect is fundamental to a student's understanding of the modern theory of complementarity. The substitution effect on the quantity demanded of X_i as a result of a compensated change in p_j is logically identical to the change in quantity demanded of X_j as the result of a compensated change in p_i. One is constrained to move along the original indifference surface in determining the substitution effect, just as he is also constrained to the original indifference surface in determining whether two goods are complementary or competitive in the consumer's budget.

4. The Income Effect in Relation to the Equivalent and the Compensating Variations. We begin this final section by reviewing the explanation of the equivalent and compensating variations as given by Henderson.[10] Suppose that an individual attains equilibrium at a position Q where he consumes (say) x units of good X. The equivalent variation is the increase in income which would just induce this consumer to forego the consumption of X entirely. In other words, if there were a government edict prohibiting the consumption of X, the equivalent variation would be the income payment which would just compensate the individual and allow him to remain on the same indifference locus.

The compensating variation, on the other hand, is a somewhat different magnitude and offers the solution to a somewhat different problem. Again suppose the consumer to be in equilibrium at Q. In this case, assume that there is a government edict which prohibits the purchase and consumption of X without a license. The compensating variation is the maximum amount that the consumer would be willing to pay for such a license. Stated alternatively, the compensating variation is the decrease in income which would reduce the level of real income by exactly the same amount as would an edict forbidding the consumption of X.

These two concepts may easily be related to the income effect. To do so, replace the fictitious edict by an increase in the price of X sufficiently great to cause the individual willingly to forego the consumption of X. There is thus a substitution effect which leads to a decrease in consumption from x to zero units of X. As we have previously explained, this change occurs along the original indifference curve, the one upon which Q is situated. The income effect then shows the decrease in the level of real income incident to the price increase. Accordingly, we may say that the income effect is just the algebraic negative of the equivalent variation, except that the units of measurement are different. The equivalent variation is measured in units of Hicks-Marshall money, while the income effect is measured in quantity units.

Let us turn now to the compensating variation. As Hicks himself has shown,[11] the compensating variation is just the reverse of the equivalent variation. That is, if there is a movement from an original equilibrium Q to a new equilibrium P, the equivalent and compensating variations are as defined above. If there is subsequently a change which causes a return to the original equilibrium Q, the equivalent variation relative to the movement from P to Q is exactly the compensating variation relative to the movement from Q to P, and vice versa. Consequently, except for measurement units, the income effect relative to point Q is precisely the negative of the compensating variation relative to point P.

The concepts of consumer's surplus and the

[10] A. Henderson, "Consumer's Surplus and the Compensating Variation," *Review of Economic Studies*, XIII, 1940–41, pp. 117–21.

[11] J. R. Hicks, "The Four Consumer's Surpluses," *Review of Economic Studies*, XVI, 1943–44.

related variations are really of negligible importance in economic theory. It nevertheless seems helpful to state their connections with the income effect, a concept which is indeed fundamental to the ordinal theory of consumer behavior.

C. E. Ferguson

Duke University

THE IMPACT OF CREDIT CARDS ON DEMAND DEPOSIT UTILIZATION

Although credit cards for the purchase of consumers' goods and services were not unknown before the Second World War, they have shown a remarkable increase in the past fifteen years as a result of high income taxes and the accompanying boom in expense accounts as well as the competitive pressures for added sales. Individuals are turning to their use increasingly as a simple way to satisfy Internal Revenue questions regarding the legitimacy and proof of such claimed deductions. Organizations like the Diners' Club and American Express now number their memberships in the hundreds of thousands; the dollar volume for all such groups probably exceeds $1 billion annually.

Of particular interest to the student of monetary theory is the impact of this development on our payments mechanism. Does the use of credit cards affect more than the legality of certain forms of business expense? How, for example, does it affect currency holdings? Are there more fundamental disturbances that may even influence monetary policy?

The credit card as used by the major units in the field is a substitution of credit for cash at the retail level. The cardholder merely signs for meals, flowers, drive-yourself automobiles and dozens of other services. Once a month he receives a bill from his credit club with copies of his chits; the total amount is then usually paid to the club, thus saving him the nuisance of cash disbursements with each purchase.

The seller, of course, had forwarded to the headquarters of the credit club the original chit, and is usually paid only after the buyer pays the club. In addition to this waiting period the seller must pay a commission to the club. In return for this charge he expects to enlarge his volume of sales at the expense of "cash only" competitors.[1]

As is evident, the effects of this arrangement are to substitute credit for currency in the payments stream, and to convert a cash sale into an account receivable, the latter remaining outstanding until the monthly bill has cleared.

The consumer is now able to maintain his spending pattern with a smaller amount of currency. Where before he had to have in advance the necessary cash for each purchase, he now need carry only "pocket change," solely for the minor items not eligible for the credit club—for example, the daily newspaper, a haircut, or a local bus ride. In other words, the amount of currency in the public's hands would decrease, and would be deposited in the banks, presumably, to swell the individual's checking account balance in anticipation of the monthly rendering of his payables.[2] The banks, in turn, would probably pass on this added currency to the Federal Reserve (if they are members), thus adding to their reserves; a fraction of this inflow—the applicable reserve ratio—would be used to meet the added required reserves against this deposit increase. Thus, one result of the spread of credit cards is to permit a larger volume of bank deposits (and bank loans and investments) with a given volume of currency, since there has now been a shift on the part of the public from currency to deposits.

The impact on demand deposits is less easy to ascertain. In all probability, as mentioned, the individual's surplus cash would be deposited to swell his checking account. However, since his bill comes only once a month, he may decide to use this addition to his account in the interim, building up his balance only before the payment date. For example, if this surplus were large enough he could invest it short-term. In fact, if his anticipated income were sufficient to pay the bill, the released cash could be used either to increase consumption or to make a permanent addition to his investments.

[1] Or raise prices to offset the commission.

[2] The possibility of his adding the cash to his time deposit would be included in the investment addition discussed in the next paragraph.

To illustrate the latter possibility, assume an individual with a monthly income of $1000, monthly rent of $150, all other cash expenses $850. Without a credit card he would have to start each month with, say, one week's cash drain—about $200—replenishing it weekly with a check drawn on his account. His monthly activity would thus show an initial deposit of the $1000 and then a gradual withdrawal over the next thirty days, debits totaling $1000.

If, however, all cash expenses can now be charged to his credit card, the first—transition—month will show no checks drawn, other than for rent. For one month he has income without the $850 payments. At the end of the month the credit club bill comes in, but so does his next monthly pay check. This month's pay thus goes to wipe out last month's expenditures, and the pattern is then repeated. Hence, the cash payments converted to charge chits—the $850—become an addition to his stock of free capital[3], thanks to this lag between the receipt of the service and the disbursement in payment.

In this example, although the monthly bank debits have not changed in total, they have been consolidated into one check. This allowed the individual to carry little or no balance in his account between payment periods, thus lowering his average monthly balance. His account's velocity—bank debits divided by average balance—has therefore risen, since the denominator has decreased.

Alternatively, he could simply deposit the cash in his account, leaving it there until payment date. Here the only effect on his deposit activity is a decline in velocity; originally his monthly payments of $1000 had been spread over a balance that declined slowly during the month, whereas now the same volume of payments comes out of an account whose average monthly balance is higher, since it remains at the same level until the day he pays his credit club bill. In other words, total debits to his account are the same, but consolidated and paid at the end of the month; his balance is affected only at the end, rather than regularly throughout the period. Therefore, velocity—bank debits divided by average balance—has declined, the denominator having been increased.

The sellers, as already indicated, have a temporary decline in cash receipts and an increase in accounts receivable; when paid by the club this is reversed, but meanwhile a new month's receivables have been added. As a result, they now have a permanent increase in receivables outstanding equal to the amount incurred during the period between payment receipts.

To finance this extra working capital requirement they may resort to short-term borrowing, and this, in all probability, would be from the commercial banks. However, if the amount so borrowed were enough to offset the entire volume of additional receivables, their current ratio would suffer, since both current assets and current liabilities would rise by the same amount. To avoid this, only a portion could be borrowed short; for example, if a 2:1 current ratio were the objective, only half the net increase in receivables could be obtained from such loans. The other half would have to be raised from long-term capital, which, if the firm lacked sufficient free resources, would mean either an equity or bond issue.[4] For the community, therefore, a portion of its long-term funds would have been diverted to the financing of working capital, thus lessening the total fixed capital stock. (To some extent the flow of long-term funds would have been increased by those consumers who used their surplus cash for additional investments.)

The banks, as we have shown, have initially a rise in both free reserves and demand deposits due to individuals. They will also have a secondary rise in loans and deposits to the extent that the sellers turn to them for short-term accommodation. In all probability the two increases in demand deposits—to the individuals and for this added financing—will not absorb all the additional reserves arising from the currency inflow.

The net effect can be illustrated by simple algebra:

Let M equal the amount of currency no longer required by individuals.

PT equals the average volume of transactions now paid through the credit clubs, i.e., the net increase in receivables (the time period would be the interval between credit club disbursements to the sellers).

V is the velocity of currency when cash payments were the rule, before the change to credit

[3] Note that in the balance sheet sense he is no wealthier, for there is the offsetting liability (account payable) to the credit club.

[4] These could be in the form of a public flotation or the drawing on investible funds from individuals, such as friends of the proprietor.

club purchases; the time period would be measured as for PT.

Then, analogous to the usual quantity equation, $M = PT/V$.

The sellers' borrowings from the banks, assuming a current ratio of 2:1, would then be $\frac{1}{2}PT$. In other words, both bank loans and demand deposits created thereby would rise by $\frac{1}{2}PT$. Therefore, the total increase in demand deposits would be $M + \frac{1}{2}PT$, the individuals' deposits of cash plus the deposits arising from the aforementioned loans.

The net effect on remaining free reserves wou be the initial cash inflow (M) less the required reserves against $M + \frac{1}{2}PT$. If we take an average reserve ratio of 20%, we can see that there would still remain free reserves if $\frac{1}{2}PT$ were less than $4M$, i.e., if velocity were less than 8. Since demand deposit velocity is now about 2 per month[6], the currency velocity in the above equations is probably much less than 8, and the banks would be able to expand loans and deposits above that already handled, equal to the multiple allowed by the reserve ratio.

Hence it can be seen that the spread of credit cards, like any other charge account system, allows a greater volume of bank credit relative to the volume of currency outstanding. On the other hand, the impact of this new payments mechanism should not be exaggerated; a rough estimate of the amount of the currency released by the public to the banks would be of the magnitude of $100–150 million, less than 1% of member bank reserves. Nevertheless, the change is not insignificant, and its neutralization would require some open-market sales by the Federal Reserve; neutrality by the Reserve authorities would give the credit clubs an inflationary effect. In brief, even monetary policy must consider this new device for postponing payment.

Edward Marcus

Brooklyn College

[6] Cf. the Federal Reserve Board series on bank debits and deposit turnover (337 other reporting centers).

TRADE CREATION AND TRADE DIVERSION: A GEOMETRICAL NOTE

In a classic study[1], Professor Viner coined two terms which have since become part and parcel of customs union theory. A union, according to Viner, can have two possible outcomes—trade creation and/or trade diversion. He defined these outcomes as follows:

> There will be commodities, however, which one of the members of the customs union will now newly import from the other but which it formerly did not import at all because the price of the protected domestic product was lower than any price at any foreign source plus the duty. This shift in the locus of production ... is a shift from a high-cost to a low-cost point....
>
> There will be other commodities which one of the members ... will now newly import from the other whereas before the customs union it imported them from a third country, because that was the cheapest possible source of supply even after payment of the duty. This shift in the locus of production is now ... between a low-cost third country and the other, high-cost, member country....[2]

He added that a shift of supply from a high-cost source to a low-cost source represents an improvement of productive efficiency in the countries directly involved and in the world at large; a shift from a low-cost source to a high-cost source has the opposite effect. Therefore, from the free-trade viewpoint, whether a customs union is deemed desirable or not depends on which of the two types of consequences predominates.[3]

Viner has thus provided a relatively clear-cut criterion by which to judge the economic implications of any customs union. A union is primarily viewed as causing movements from one level of production costs to another; where the the movement is from a high to a low level, the result is an economic gain, and vice versa. Yet this identification of trade creation with a gain to economic efficiency and trade diversion with a loss, has invited a great deal of criticism.

It has been argued, for example, that since a union involves elements of both trade diversion and trade creation, the losses due to the former must be cancelled against the gains due to the

[1] J. Viner, *The Customs Union Issue* (New York: Carnegie Endowment for International Peace, 1950).

[2] *Ibid*, p. 43.

[3] *Ibid*, p. 44.

latter. That is to say, in judging a particular union one must consider not only the total volume of trade on which costs have been lowered and the total volume of trade on which costs have been raised, but also the *extent* to which costs have been raised on each unit of diverted trade and the extent to which they have been lowered on each unit of the newly created trade.[4]

It has also been suggested that to evaluate a union merely in terms of its effects on productive efficiency is misleading. A union may give rise not only to changes in production but also to changes in consumption.[5] Therefore, the net gains (or losses) from a union must be measured in terms of efficiency in both production and consumption. In fact, it has been shown that even where trade diversion occurs, an importing member of a union may still experience a gain to its welfare due to an increase in consumption.[6]

It is not the purpose of this note to elaborate on the criticisms outlined above nor to offer new ones along the same lines of reasoning. Instead, it is proposed to demonstrate that the weakness of Viner's criterion stems, to a large extent, from the very manner in which the terms (trade creation and trade diversion) are defined. In the first place, both definitions rest on restricted assumptions with respect to supply and demand conditions, and no allowance is made for the effects of various possible supply and demand elasticities.[7] Secondly, and by far more important, the outcomes of a union are defined not on the basis of actual cost conditions in the supplying countries, but rather on the basis of an artificial situation where a tariff, imposed by the importing country, may cause one source of supply to appear more (or less) costly than another.

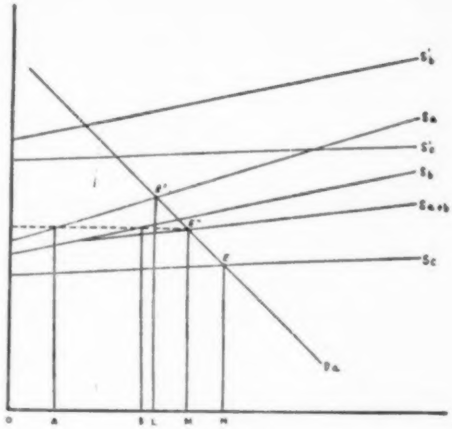

FIGURE 1

Two graphical presentations are made below. Each in turn represents, in diagrammatical terms, one of Viner's definitions. In both cases, a simple three-country model involving one commodity is being used.

Consider first a case of trade creation. Country A forms a union with country B rather than with a third country, C. In Figure 1, the supply curves of B and C are S_b and S_c respectively.[8] Country A's domestic supply curve is S_a, and its demand curve is represented by D_a. Before the union, a uniform tariff is imposed by A on both B and C. As a result, their supply curves are shifted upward and are represented by S'_b and S'_c respectively.[9] Under tariff, the external supply curve facing A's consumers is, for all intents and purposes, the line S'_c.

Prior to the formation of the union, country A did not import the commodity in question from either B or C, because the domestic price (LE') was lower than any foreign price plus the duty. Once a union is formed with country B, the latter's supply curve, as far as A's consumers are concerned, becomes S_b while the supply curve of C remains S'_c. Consumers in A are now faced with a combined supply curve S_{a+b}, representing the horizontal addition of S_a and S_b. At equilibrium (E''), the price is ME'' and the quantity

[4] J. E. Meade, *The Theory of Customs Unions* (Amsterdam: North-Holland Publishing Co., 1955), pp. 34–35.

[5] *Ibid*, p. 44.

[6] See R. Lipsey, "The Theory of Customs Unions: Trade Diversion and Welfare," *Economica*, February 1957, XXIV, pp. 40–48. For another discussion in the same vein, see F. Gehrels, "Customs Union From a Single-Country Viewpoint," *The Review of Economic Studies*, 1956–57, XXIV (No. 1), pp. 61–64.

[7] In one of the early discussions of customs unions it was already argued that, in general, gains (or losses) from a union depend, to a large extent, on the conditions of supply and demand elasticities. See J. deBeers, "Tariff Aspects of a Federal Union," *Quarterly Journal of Economics*, November 1941, pp. 49–92.

[8] These curves can be regarded as reflecting cost conditions in the countries involved.

[9] Since a "uniform tariff" means a flat amount of tax per unit of output, the curves S'_b and S'_c are parallel to the curves S_b and S_c respectively.

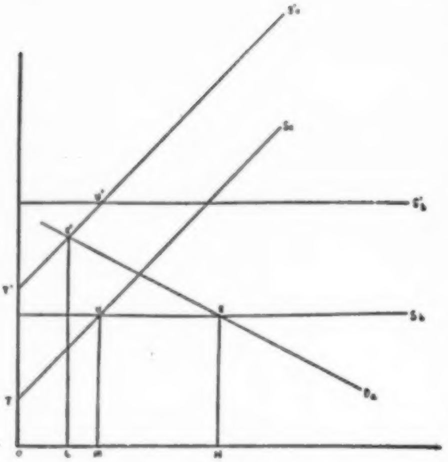

FIGURE 2

demanded is OM. This quantity is supplied in part by A (OA) and in part by B (OB). It can be seen that the addition, along the horizontal axis, of OA and OB equals OM, and that OM is larger than OL (the quantity available to A's consumers prior to the union).

According to Viner, the outcome is one of trade creation and thus represents a gain to economic efficiency for the countries involved as well as for the world at large. Yet it is clear that had country A formed a union with C, the gain (at least in terms of quantity available and price) would have been even larger. In fact, in the absence of tariff on both suppliers, B would have been unable to compete with C's exports; and in equilibrium (E) the entire quantity demanded by A's consumers (ON) would have been supplied by country C. Even with the preference, granted to it by A, country B's contribution to the total quantity now available is smaller than the quantity supplied by A alone prior to the union (OB < OL). Moreover, it is rather doubtful that the newly created trade leads, under these circumstances, to an improvement of economic efficiency in the world at large.

Next, consider Viner's definition of trade diversion, as depicted in Figure 2. The same notations are used; but since, in this case, the commodity is not produced in A, no domestic supply curve is shown. Prior to the union, and under tariff, the combined supply curve facing country A was the line which passes through the points T'U'S'$_b$ (representing the horizontal addition of S'$_b$ and S'$_c$). Country A imported the commodity from country C, because the latter constituted the cheapest possible source of supply (even after payment of the duty). The quantity imported was OL and the price LE'.

Once again a union is formed between A and B. As a result, country A shifts its source of imports from C to B. The quantity now imported is ON and the price NE. On the basis of his own definition, Viner must regard the outcome as one of trade diversion, because under tariff C, and not B, was the cheapest source of supply. Yet the actual result is clearly one of trade creation. For at the new equilibrium (E), country A is supplied with a larger quantity (ON > OL) and at a lower price (NE < LE').

The solution to the riddle is simple. In the absence of tariff on both C and B, the combined supply curve facing A would be the line TUS$_b$. Under such circumstances, country C could supply only OM of A's demand whereas B would supply a larger quantity (MN). Since B's supply curve is depicted as perfectly elastic and A's demand curve is very elastic, the tariff, levied on both C and B, enables the former (whose supply curve is rather inelastic) to capture A's market completely. Yet when actual cost conditions in C and B are compared, the latter emerges as the cheaper source of the two. The union formed between A and B must, therefore, be regarded as leading to an improvement of economic efficiency in the member-countries and in the world at large.

Both cases describe a union formed between country A and country B; yet the outcomes vary. In one instance, the gain is, on balance, rather small, but could have been larger had the union been formed between A and C. In the second, the union can definitely be endorsed on the grounds of economic efficiency. It appears, then, that the different results obtained depend on the different supply and demand conditions which have been assumed in the two cases. These results, and the conditions leading to them, are summarized in Table I.

The foregoing discussion should not be identified with criticisms levelled at Viner for judging the consequences of a customs union solely on the basis of shifts between sources of supply and for identifying a shift from a high to a low-cost source with gains and a shift in the opposite direction with losses. Such criticisms are, of course, valid in themselves. Under scrutiny here, however, were the actual terms which form the basis of Viner's own criterion. The graphical

TABLE I

RESULTS OF A UNION FORMED BETWEEN A AND B UNDER VARIOUS SUPPLY AND DEMAND CONDITIONS

Case*	Demand curve in A	Conditions of supply curves		Positions of supply curves	Quantity available to A and price, at equilibrium		
		in B	in C		Under tariff	Under union	Absence of tariff on B and C
I	inelastic	relatively elastic	very elastic	S_b lies entirely above S_c, and S_a lies entirely above S_b	E′ quantity OL price LE′	E″ quantity OM, supplied by A (OA) and B (OB) at price ME″	E quantity ON price NE
II	elastic	perfectly elastic	very inelastic	S_c crosses S_b near the vertical axis	E′ quantity OL price LE′	E quantity ON price NE	E quantity ON, supplied by C (OM) and B (MN) at price NE (=MU)

* Case I and Case II correspond to the situations depicted in Fig. 1 and Fig. 2 respectively.

analysis has—it is hoped—demonstrated that due to the manner in which they are defined, the very terms "trade creation" and "trade diversion" may often be misleading in identifying the actual shifts to which a particular union has given rise.

IMANUEL WEXLER
University of Connecticut

A SINGLE-RATE EQUIVALENT FOR WAGE SCALE COMPARISONS

Research projects and wage negotiations often require the comparison of wage payments among companies, industries, or occupations. This note suggests a solution to a particular problem which is often encountered when such comparisons are based on hourly wage rates. Assume that the wage scales for a certain job classification in two different companies are as follows:

	Company A	Company B
Beginning rate	\$1.00	\$0.95
One year	1.20	1.05
Two years	1.40	1.15
Three years	same	1.25
Four years	same	1.35
Five years	same	1.45

Which company pays the higher wages? Company A pays a higher beginning rate; Company B, a higher top rate. The arithmetic averages of the wage scales and the midpoints of the wage scales are the same for both companies. A method is needed to convert the wage scale into a single-rate equivalent which represents to the worker the value of being employed under such a wage scale. The measure we propose is the constant wage rate which, over the period of the worker's expected employment in the company, is equivalent to the stream of his actual wage receipts.

If the average worker is employed for N years and if he supplemented his relatively low wage during the early years by borrowing at an interest rate of $100r$ per cent, subsequently repaying his debt with part of his higher receipts in later years, he could achieve a constant wage rate per hour of w_e. Let the beginning rate be w_0, the rate applicable to the second year, w_1, etc..., to the rate w_{N-1} for the N-th year. The present value, P, of the wage received for one hour of work each year at the discount rate of r is then

$$P = w_0 + \frac{w_1}{1+r} + \frac{w_2}{(1+r)^2} + \cdots + \frac{w_{N-1}}{(1+r)^{N-1}} \qquad (1)$$

We seek the constant amount w_e which P would yield over N years; thus

$$P = w_e + \frac{w_e}{1+r} + \frac{w_e}{(1+r)^2} + \cdots + \frac{w_e}{(1+r)^{N-1}} = w_e \frac{1 - \dfrac{1}{(1+r)^N}}{1 - \dfrac{1}{1+r}} \tag{2}$$

Setting the right hand sides of (1) and (2) equal and solving for w_e, we obtain

$$w_e = \frac{r(1+r)^{N-1}}{(1+r)^N - 1}\left[w_0 + \frac{w_1}{1+r} + \frac{w_2}{(1+r)^2} + \cdots + \frac{w_{N-1}}{(1+r)^{N-1}}\right] \tag{3}$$

If there are only n step increases ($n < N$), so that the top rate, w_n, is reached in the $(n+1)$th year, the computations can be simplified by using

$$w_e = \frac{r(1+r)^{N-1}}{(1+r)^N - 1}\left[w_0 + \frac{w_1}{1+r} + \frac{w_2}{(1+r)^2} + \cdots + \frac{w_{n-1}}{(1+r)^{n-1}}\right] + w_n \frac{(1+r)^{N-n} - 1}{(1+r)^N - 1} \tag{4}$$

Furthermore, if the step increases are of equal size, s, and if they are equally spaced, as in our numerical example at the beginning of the note, so that $w_1 = w_0 + s$, $w_2 = w_0 + 2s$, etc., then (4) simplifies[1] to

$$w_e = w_0 + sk \tag{5}$$

where

$$k = \frac{(1+r)^N - (1+r)^{N-n} - nr}{r[(1+r)^N - 1]}$$

Assuming an average working life of 15 years ($N = 15$) and a borrowing rate of 10 per cent ($r = .10$), the single-rate equivalents are \$1.33 for Company A and \$1.29 for Company B, while at a borrowing rate of 5 per cent the figures are \$1.35 for Company A and \$1.32 for Company B.[2]

While the choice of the interest rate is perhaps somewhat arbitrary, the example shows that changes of r in the 5 to 10 per cent range do not affect the results materially. N can be estimated from the labor turnover data for the particular company or industry concerned. As the table in the footnote shows, changes in N have only a moderate effect on w_e. For instance with $N = 10$ and $r = .10$, the single-rate equivalents for Company A and B would be \$1.31 and \$1.25.

If the step increases occur semiannually or quarterly, the time period can be redefined for n and N, while one-half or one-fourth of the annual interest rate is used. If the intervals between step increases or the amounts of the step increases are irregular, the general formulae (3) or (4) must be used.

The various wage measures discussed in the text are summarized below:

	Company A	Company B	Difference
Beginning wage rate	\$1.00	\$0.95	+0.05
Top rate	1.40	1.45	−0.05
Midpoint of wage scale	1.20	1.20	0.00
Average of wage scale	1.20	1.20	0.00
$w_e(r = .10, N = 15)$	1.33	1.29	+0.04

It is common practice to use top rates or midpoints of wage scales for wage rate comparisons. If the basic idea behind the proposed single-rate equivalent is accepted, it can be seen that the former measures may result in error.[3]

Melvin Lurie

University of Connecticut

Rudolf R. Rhomberg

International Monetary Fund

[1] This formulation was suggested by Professor H. Gregg Lewis, Department of Economics, University of Chicago.

[2] For the convenience of the reader, the value of k for $r = .05$ and $r = .10$ is tabulated for different combinations of N and n.

n	$N = 10$		$N = 15$	
	$r = .05$	$r = .10$	$r = .05$	$r = .10$
1	0.877	0.852	0.908	0.880
2	1.636	1.570	1.729	1.652
3	2.283	2.165	2.467	2.325
4	2.824	2.649	3.125	2.909
5	3.283	3.032	3.708	3.410
6	3.606	3.323	4.219	3.837
7	3.856	3.531	4.662	4.205
8	4.019	3.663	5.039	4.496
9	4.099	3.725	5.354	4.739
10	—	—	5.610	4.931

[3] Although we believe that this method has general value in wage comparisons, it has particular significance when comparisions are made between union and nonunion companies, industries, or occupations for the purpose of isolating the impact of unionization on wages. The use of other measures would tend to underestimate the effect of unionization because unions act not only to raise the level of wage scales, but also to reduce the time needed to move from the beginning to the top rate.

BOOK REVIEWS

Strategy and Market Structure: Competition, Oligopoly and the Theory of Games. By Martin Shubik. New York: John Wiley & Sons, 1959. Pp. xviii, 387. $8.00.

The contributions to economics expected by some writers from the theory of games have been slow to materialize. This book attempts an extensive application of game theoretic methods to problems of market structure and action. In the author's words, "The primary purpose of this work is to begin to develop a unified approach to the various theories of competition and markets. The main set of techniques employed to achieve this end are those of game theory" (p. xi).

The author's attempts to unite game theory and market theory begin with a separate consideration of these topics in the early chapters. He moves to a comparison of some of the earlier solutions of problems of monopoly, bilateral monopoly and duopoly with solutions obtained by game theory approaches. Little of a startling nature develops. One of the most interesting parts of this section of the book is the discussion of contingent demand, i.e., demand in the case of multi-price goods. This concept is used in discussing a duopolistic market for homogeneous goods, and in explaining the fluctuations in an Edgeworth model.

The second part of the book attempts to develop a dynamic approach to oligopoly. The first two chapters of this part of the book are devoted to the function of information in market theory and the extensive form of a game, i.e., game trees, respectively. To this reviewer it seemed that the first of these subjects was never very clearly integrated with the chapters on the theory of oligopoly that follow. The book concludes with two chapters concerning the empirical structure of certain markets and social goals and economic theory. The last two chapters rehash familiar empirical and legal material and make a few gestures in the direction of applying game theory to these problems.

A feature of the book worthy of note is the extent to which subjects not often covered in theoretical treatments of oligopoly are brought into the discussion. The topics include financing, inventories, information theory and, although it is more often discussed, advertising. Some of these are woven into the theoretical fabric successfully and others are not. For example, the initial financing of a firm is made a part of a theoretical model but little comes of the discussion of advertising and most of the other "unusual" topics.

One might suppose that the chief question to be raised is how well does the author succeed in achieving a unified approach to the theories of competition and markets through the case of game theory? But there are more central questions. For example, what is accomplished by showing that a game theory approach can be taken to most problems in the theory of markets? Is this not rather like saying that a solution of these problems can often be achieved by taking a differential calculus approach? In either case (they are not mutually exclusive) the approach is so general that it implies little genuine content. The more crucial question is how must one particularize and specify game theory to make it applicable to the problems at hand?

The specific methods used by Shubik are those of games of economic survival. In such games a firm may be ruined and the remaining firms divide a prize as a consequence. Threats may be used to inhibit the actions of a competitor. Thus an equilibrium may be maintained. To this reviewer it seemed that too often the rendering of a problem into game theory terms seemed to lead to results that could be more readily realized in plain English; one is led by a play on words to recall games and candles.

Even if one is not greatly impressed by the contributions of game theory to economics, he must recognize the book as a considerable intellectual achievement. It should not be inferred from this that the book is merely an intellectual exercise. It is an effort worthy of serious scrutiny by economists, but, if it contains the seeds of a revolution in economic theory, this reviewer failed to find them.

Ralph W. Pfouts
University of North Carolina

Business Behavior, Value, and Growth. By William J. Baumol. New York: Macmillan Company, 1959. Pp. xiv, 164. $4.75.

It is quite difficult to review this volume, slim though it is, in the limits of a conventional review. The book deals in two parts with the theory of the large-sized firm and the theory of economic growth, and although Baumol states in his Preface that the two parts are "only slightly related," his subsequent analysis reveals that the link is perhaps stronger than he has admitted.

Part I ("On the Static Theory of Oligopoly") is concerned not with oligopoly as it is usually defined, but rather with the analysis of large-sized firms. Baumol's major points here are two in number. First, he presents the hypothesis that large-sized oligopolists do not strive to maximize profits but rather to maximize total sales revenue subject to a minimum profits constraint. In regard to this maximand, Baumol states that "the compromise [between sales and profit] is, of course, usually tacit, its terms ill-defined, and doubtless, varies from case to case" (p. 49). Once the minimum profit level, the height of which is determined by the dividend payments and appreciation in the value of equities that would leave stockholders happy and by retained earnings and dividend policy for future economic expansion, is achieved, "sales revenues rather than profits become the over-riding goal" (p. 49). Again there is nothing neat and definitive about the determination of the minimum profit level; it also is ill-defined, vague, and no doubt varies from case to case. Some may object to this approach methodologically, for it does not permit of sweeping generalizations that so many theorists epitomize and virtually idolize. Baumol's answer to this type of objection is given in Chapter 1, where he argues that "we must re-examine our assumptions for relevance in every case where we seek to apply a theoretical analysis: and where our model seems to provide some guidance, we must constantly be on the lookout lest its oversimplification mislead us into facile conclusions and policy measures" (p. 2).

The second major point of Part I is that large oligopolists pay little attention to the interdependencies that the traditional theory of oligopoly emphasizes. I do not think his analysis on this point is entirely consistent, though it must be noted that he emphasizes (p. 27) the limited reliability of the empirical basis of the hypothesis. As he puts it in one place (pp. 27, 28): "I shall take the position that, *in day-to-day decision-making,* oligopolistic interdependence plays only a small role . . . even in fairly crucial decisions, and almost always in routine policy-making, only the most cursory attention is paid to competitive reactions." Yet later (pp. 88–89) he points out that a decline in sales leads to "immediate and vigorous counter measures." It is only a short step to say that these counter measures are conceptualized by the oligopolist when he makes his decisions. More important, in the chapter on static oligopoly theory, his total revenue curve (Fig. 7:1, p. 55) is a *mutatis mutandis* curve which would include any imagined reactions or interdependencies.

Aside from these criticisms, the analysis of Part I is a vigorous step in the direction of making the theory of large-sized oligopoly more realistic and useful as an analytical tool. Although it may not be a complete step, it is deserving of careful attention and thought.

Part II ("On the Theory of Economic Growth") is connected with the preceding part by a discussion of the relationship between large-sized oligopoly and economic growth. Baumol's main conclusion at this point is that "the institutionalized structure and psychology of our business enterprise provides a powerful and sustained force making for expansion of the economy" (p. 100). In his growth theory proper, he concludes that the magnitudes of the marginal productivity of capital and of the marginal propensities to invest and to save are more important for economic growth than a nation's initial stock of capital. Baumol's major policy proposal is a tax system which involves "imposition of a very heavy additional tax on producers and potential producers combined with a rebate or exemption to entrepreneurs whose rate *as a proportion* of the firm's total output is based on the percentage growth in their output over the preceding year. The exemption should increase with the rate of growth but not necessarily disproportionately" (p. 151). Unfortunately space limitations prohibit critical discussion of this intriguing proposal and I can only urge the reader to read carefully the last chapter of Baumol's book.

As noted at the outset, this slim volume is packed with new and interesting hypotheses, and certainly it will serve as a catalytic agent for further analyses in both price theory and growth theory. One final comment is in order. It is in-

deed pleasurable to read a book in which novel ideas are presented in such a nondogmatic manner. Baumol's qualifications and insistence on the tentativeness of many of his statements and conclusions stand as the mark of a high degree of scholarship.

Louis A. Dow

University of Oklahoma

Economic Dynamics: An Introduction. 2nd ed. By William J. Baumol. New York: Macmillan Company, 1959. Pp. xv, 396. $6.75.

The term "economic dynamics," like many other terms, has different meanings to different economists. To Baumol, it means "the study of economic phenomena in relation to preceding and succeeding events" (p. 4). Upon this definition, he includes in this volume three types of dynamic analysis: (a) the "magnificent" dynamics, (b) statics involving time, and (c) process (or sequence) analysis.

The so-called "magnificent" dynamics refers to those bold analyses of the development of the economy over long periods of time, based on simple deduction from broad economic laws, such as the law of diminishing returns. Examples of such analyses are found in the works of Marx and Schumpeter, and in the classical theory of the evolution of a progressive economy into a stationary state. Statics involving time means the study of a situation at a given moment, as in the case of a person looking at a "dated" photograph. In this connection, Hicks' analysis of the equilibrium of firm, and Lange's analysis of price flexibility are discussed. Process analysis, on the other hand, involves "the splitting of time into periods such that, apart from exogenous changes, the events of any period can be explained with reference to the events of previous periods" (p. 128). Here, the time spans covered by the problems are relatively short, and the relationships studied, in contrast to those of the "magnificent" variety, are more "humdrum and pedestrian" (p. 14). Such problems may involve relationships like the effect of this year's farm price on next year's production, and the effect of the rate of change in income on the rate of investment.

The three-part organization of this book is a legacy from its first edition. According to the author himself, the revision has consisted mostly of "addition rather than emendation" (p. vii). The added material, moreover, is mostly mathematical in nature, covering such topics as nonlinear equations and simultaneous difference and differential equation systems, all of which pertain to process analysis. Consequently, as much as 70 per cent of the text is now occupied by the "pedestrian" dynamics, while the "magnificent" dynamics takes up only 12 per cent, with the remaining 18 per cent devoted to statics involving time. The main reason for the uneven space allocation lies of course in the author's intention to introduce, in a detailed manner, the elementary mathematical techniques which are typically used in process or period analysis.

As the reader may have surmised from the brief description of the various types of dynamics above, the three parts of this book are not really inseparable components of an entity, but rather three distinct entities loosely joined together by virtue of their common family name of "dynamics." The lack of a tight connection between the parts, however, by no means diminishes the value of this book. Just as each story in Somerset Maugham's *Trio* can be interesting by itself, each part of the book under review is useful in its own way. The first 120 pages can serve as an aid to the understanding of the theories described therein, and the last 250 pages can be used as an introductory course in difference and differential equations for economists.

One of the outstanding features of the book is the extreme lucidity of exposition, which is matched also by the author's patience. It is important to point out that despite the presence of the word "dynamics" in the title, this book is not very difficult to read, even in its mathematical portions. In the explanation of difference equations, especially, the author guides the reader through the material step by step at a very comfortable pace. In the last two chapters on simultaneous equation systems, however, the exposition becomes slightly more hurried, and requires more mathematical equipment of the reader. Throughout the discussion of process analysis, where the main concern seems to be the teaching of mathematical techniques, exercises are supplied, with answers given in a separate section of the book.

For those who are interested in process analysis, it may prove useful to make a comparison of this volume with the coverage of the same subject matter in R. G. D. Allen, *Mathematical Economics* (London: Macmillan; New York:

St. Martin's Press, 1956). In the first place, while both authors are lucid, Baumol is more patient, and Allen more concise. Secondly, Baumol treats the subject of difference equations in more detail than differential equations; the former is discussed in a total of five chapters before a chapter on the latter subject appears. Allen, on the other hand, presents a more even treatment of the two. Thirdly, exercises for readers are given by both authors, but Baumol's are fewer in number and simpler in substance. Fourthly, perhaps because of his preoccupation with the expounding of mathematical methods, Baumol gives fewer illustrations than Allen of the economic application of the mathematics earlier introduced. And lastly, whereas Allen pays little attention to simultaneous difference and differential equations, Baumol devotes his last two chapters to this subject. In view of the somewhat hurried pace of exposition in those chapters, however, the reader may find it convenient first to read Allen's Appendix A ("The Algebra of Operators") and Chapter 13 ("Matrix Algebra") as a preparatory step. Otherwise, as far as period analysis is concerned, the reading of Baumol should precede that of Allen.

ALPHA C. CHIANG
Denison University

Balance of Payments and Economic Growth. John M. Letiche. New York: Harper & Brothers, 1959. Pp. xiii, 378. $6.00.

This is a competently written, closely reasoned and only occasionally abstruse book. It consists of two parts. The first is largely polemical and takes issue with various approaches to the international adjustments mechanism. It includes the author's own general mechanism theory. The second part, in spite of its title, deals mainly with the historical perspective of the dollar shortage problem.

The current theories of adjustments to disturbances in the balance of payments suffer from segmentation and from undue reliance on partial equilibrium analysis. Stable exchange rates, fluctuating exchanges and the income-flow approaches are treated separately and are not integrated with domestic banking and price policy. The partial equilibrium analysis puts undue emphasis on reciprocal demand elasticities and is misleading because the process of international adjustment causes shifts in entire schedules rather than merely movements along them. Letiche shows that a more general theory of international adjustment must combine the cost-price with the income-flow approach and must integrate the theory of income determination with the analysis of the international adjustments. Thus the degree of improvement in the balance of payments following devaluation will depend on the ratio of the rate of change of aggregate demand in the devaluing country to that of the rest of the world. If domestic prices rise faster than the prices of internationally traded goods devaluation will improve the balance of payments. In the opposite case the balance of payments will deteriorate as a result of devaluation.

The analysis in the first part of the book is on a high level even though the polemical heat burns adversaries who occasionally seem to have been made of particularly inflammable stuff. Thus, some of the neo-classicists *are* aware that the operation of the foreign trade multiplier must be supplemented by some cost-price adjustment for international equilibrium to be restored. More recent empirical studies, notably those of Zassenhaus and Harberger, *do* distinguish between price and income elasticities of reciprocal demand schedules.

In Chapter 5, Letiche is allegedly discussing the Harvard neo-classicists but all one finds there is a discussion of the positions held by Ohlin, Taussig and Viner. But these overstatements do not seriously impair the usefulness of the analysis nor do they detract from the author's contribution.

The bulk of the second part of the book consists of a detailed and careful examination of the international economic relations between the United States and Western Europe. Letiche finds that the growth of American productivity over time was not significantly greater than that of Western European countries with the exception of Britain, due mainly to the arrested industrial development of that country in the 1920's. Nor does he find much evidence to support the contention that American productivity increased fastest in import-competing industries. In short, the dollar shortage problem is not an intrinsic, chronic one, but one brought about by man-made policies. In an excellent discussion of the trading position of Britain in the 19th century, Letiche establishes the proposition that the long-run equilibrium in international payments under British hegemony was made possible by the fact

that that country accepted a continuing deficit on her current account. In the 20th century, USA assumed Britain's pivotal role in international trade but did not accept the excess of imports over exports necessitated by that role. Letiche further suggests that the disequilibrating role of the United States was mainly institutional in origin although he grants that the structure of American industry, the protected position of agriculture, the high ratio of transportation costs to that of total product, all combined to make it possible to substitute domestic goods for imports with reasonable efficiency. But in addition to American protectionism the main institutional obstacle to international equilibrium was the failure of internal stabilization policies. In the interwar period in particular, the lag in imports was due to the tendency of American producti. e capacity to rise faster than aggregate demand. It is the inability of the American economy to control inflation and thus to prevent subsequent recession that accounts for the persistence of the dollar shortage. The greatest danger to international equilibrium under current conditions is an American recession on the 1957–58 model. A fall in industrial production and ir incomes is likely to depress imports. The fall in imports is not likely to be compensated by the rise in export prices.

Letiche concludes that there is little hope that the United States will accept a chronic deficit on current account. Hence, if international disequilibrium is to be avoided, the United States must be prepared to continue to export capital as is consonant with her position as a mature creditor country.

Whether or not this book can be recommended as a textbook supplement, it should be made compulsory readin. io. those officials of the Treasury who, of late, seem to be bent on directing our foreign economic policy.

ALEK A. ROZENTAL
Saint Louis University

The State and Economic Growth. Edited by Hugh G. J. Aitken. New York: Social Science Research Council, 1959. Pp. x, 389. $3.75.

This volume contains a series of revised papers presented originally at the 1956 Conference of the Committee on Economic Growth of the Social Science Research Council. On the whole the individual articles are interesting, informative, well-documented summaries and comments on the economic growth of various countries. The Committee adopted what they term a schema to provide a unified framework for comparative analysis. Countries were classified in terms of three so-called continua: expansionist-intrinsic, dominant-non-dominant, and autonomous-induced. The validity of these continua (which tend in actuality to be employed as discrete categories), in particular the autonomous vs. induced dichotomy, is questioned by Reubens in his excellent article on Manchuria, and is only perfunctorily acknowledged as significant by the other authors.

In spite of the overall theoretical schema, each author seems to have posed for himself a different perspective which leaves the reader somewhat confused as to the purposes of the conference so far as testing out theoretical notions concerning the relationship of the state to economic growth. Beyond the problem of the state and economic growth, the articles taken as a whole are inconsistent in the selection of relevant factors, in the usage of terms, in their choice of criteria of economic growth and of state policy. There is such diversity of approach to the central problem as well as in defining phenomena, that it is impossible to draw any meaningful comparative generalizations or to test a theoretical model. Two examples will illustrate how the inconsistent use of concepts tends to befuddle argument and analysis: 1. some authors view state action designed to alter social organization as relevant and hence as "inducing" economic growth, others consider as induced development only those instances in which the state makes direct economic policy decisions, while others include foreign or political policies which indirectly serve as an impetus to private investment, and 2. the term state is used by some to refer to any political authority from empire to provincial government, others restrict its usage to the modern nation-state, most tend to use state and government interchangeably.

In addition to eight articles on individual countries, one on eastern Europe and one on development of ore mining in France and Germany, the volume attempts some theoretical integration. In particular the article by Bert F. Hoselitz on economic policy and development attempts to superimpose an overall conceptual framework on the multiplicity of patterns of economic growth and the role of the state con-

tained in this volume by correlating the induced-autonomous continuum with a tentatively offered proposition of phases of secular evolution for societies. Derived from the model of structural-functional analysis of social systems elaborated by Talcott Parsons, Hoselitz argues that economic growth tends to be induced when goal-attainment (which are equated with political) problems predominate and autonomous when adaptive (physical environment, etc.) needs predominate. Hoselitz conceives of economic growth as a dependent variable with respect to the independent goal-attainment problems. He does not consider instances where economic growth is itself a political goal of society and thus the independent variable, nor on the other hand does he consider that in instances where adaptive issues are foremost the state may well "induce" economic growth. In fact, the very integration of a society, which is Hoselitz' first phase, may be dependent upon the attainment of the goal of economic growth, whether it be induced or autonomous. Indeed, it is difficult for this reviewer to differentiate between societies in goal-attainment vs. apative phases. Joseph J. Spengler's remark in his summary article that the model "has little predictive and only limited explanatory value" seems most appropriate.

Perhaps the problem of not ending up with an empty syntactical theoretical system as one moves from empirical data to comparative analysis, to the formulation of models of economic growth will one day be solved. This volume deserves careful study if that goal is to be attained for each of the authors has thrown into clearer relief some of the problems of the abstracting process from data to theory.

ADAMANTIA POLLIS KOSLIN
Hunter College

Studies in the Theory of Money, 1690–1776. By Douglas Vickers. Philadelphia: Chilton Company, 1959. Pp. ix, 313. $6.50.

Monetary theorists should welcome this collection of essays. Here we have a systematic treatment of the development of monetary theory between 1690 and 1776. Emphasis is placed upon the relation of money to the problems of price, interest, coinage, and, in particular, employment. One finds that the literature of the period, when viewed in light of the preceding problems, has a familiar ring to it—that of contemporary macroeconomics. The connection between money, monetary demand, and employment was clearly understood. And if Professor Vickers' book has any one contribution to make to the history of monetary theory, it is that it effectively dispels the still prevalent notion that the main contribution of most eighteenth century economists to monetary theory was a statement of the crude quantity theory of money.

The main body of the book is organized into three sections, each consisting of three essays dealing with the more important authors of the period. Vickers is first concerned with the early developers of monetary theory: John Locke, Nicholas Barbon, and Sir Dudley North. The essay on Locke was, for me, the most interesting of this group. Vickers points out that the contributions of Locke to the theory of money lay primarily in his discussion of (a) the relation of the money supply to the level of trade activity and (b) the interest rate. Locke argued that the money problem was one of monetary circulation rather than the money supply driving the wheels of trade. In this context Locke did not discuss how monetary circulation drives trade, being content with setting up the definitional relationship between the two. Separate from his discussion of money and trade, Locke showed the connection between money and prices; it is on this part of his analysis that contemporary economists have based their view of Locke as an early developer of the crude quantity theory. With respect to the rate of interest, Vickers correctly points out (p. 47) that Locke regarded interest to be the price of hire of money, the demand forces being analyzed while the supply of loan funds was inadequately treated.

Vickers secondly deals with John Law, George Berkeley, and Jacob Vanderlint, who are appropriately dubbed 'The Inflationists.' The authors in this group were applied economists, seeking solutions to the problems of unemployment and poverty. For example, John Law, as is generally known, argued that money and credit will extend trade and employment (pp. 114–115).

The monetary theory of the period became relatively complete in the works of the three authors that Vickers studies in his third group of essays. Richard Cantillon, David Hume, and Sir James Steuart "... attempted to show *how* an increase in the supply of money caused prices to rise and *how*, in other circumstances, it led to an increase in the level of business activity" (p.

10). The analysis of these mid-eighteenth century writers had certainly advanced beyond the equational relationships of Locke.

These studies by Vickers are for the most part done in a scholarly manner. I was surprised that Vickers in his study on John Law made no reference to the research of Earl J. Hamilton. Also no mention is made of Ian Ward's recent reexamination of Berkeley's contributions, although it is possible that Vickers' book went to press before the publication of Ward's article. This book has much to commend it and will probably become required reading in graduate programs where the historical development of ideas is still considered as important as contemporary economic theory.

JOHN J. KLEIN
Oklahoma State University

Commodity Reserve Currency. By Elmer M. Harmon. New York: Columbia University Press, 1959. Pp. iii, 139. $3.50.

The title of this book is unfortunate because what the author proposes is not a fundamental monetary reform but a plan for stabilizing incomes of primary commodity producers; commodity reserve currency is set forth simply as a convenient device for financing multi-commodity buffer stocks. Harmon takes as his point of departure a recent United Nations study which examined the price behavior of twenty-five individual commodities for the years 1901 to 1951. Average within-year price fluctuations, for example, were found to range from a plus or minus 19 per cent for sugar to a plus or minus 37 per cent for rubber and averaged a plus or minus 27 per cent. The difficulties imposed by such extreme instability in primary commodity markets are summarized as follows: 1. Hardship for individual primary producers. 2. Political instability, retarded development, and inflation in under-developed areas. 3. Intensified price and employment fluctuations in developed areas. 4. Waste in use of resources.

It is inevitable, Harmon argues, that governments will attempt to do something about widely fluctuating raw material prices. The issue is not whether the governments should do something or do nothing; the question is what policy of government intervention will be most effective and least disruptive to private enterprise. The author describes and rejects as unsatisfactory a number of schemes: international commodity control agreements, long-term contracts, compensatory arrangements, and international buffer stocks of individual commodities. The plan which Harmon believes holds the greatest promise is the solution arrived at independently by Benjamin Graham and Jan Goudriaan. Although this plan "is refreshingly different, simple, and ingenious, and holds great promise of improving primary commodity markets," it is a solution "which the vast laity of economists, it would appear, have relegated to the limbo of schemes of monetary cranks" (p. 39).

The essence of the plan here defended "is the concept of a commodity-unit consisting of a specified number of standard storable commodities in fixed physical proportion. These commodity-units would be purchased (sold) in unlimited amounts should the price of the unit fall (rise) a given amount below (above) a stated stabilization level. The price of the group of commodities would be stabilized while the relative prices of the individual commodities would be free to change.... Financing the commodity stocks could be accomplished either through issuing commodity reserve currency or through the sale of securities. Storage costs would be met largely through seigniorage profits ..." (p. 40). The size of the stockpile required to keep the commodity-unit price stable over a somewhat longer than average expansion or contraction would be about twelve per cent of one year's production of commodities included in the unit (p. 82). The cost of financing the plan is estimated to average roughly between zero and one-half billion dollars per year (p. 105).

The advantages of the plan are summarized as follows: 1. It would reduce income fluctuations confronting the primary producer and help him to adjust to whatever income fluctuations remain. 2. It would enhance the efficient use of resources in general and the efficient use of the current stock of primary commodities in particular. 3. It would provide a significant and additional measure of built-in flexibility. 4. It would provide a stockpile of raw materials which would be invaluable to the free world in the event of war. 5. It would dampen the incentive to cartelization in primary production and blunt the political claim of primary producers to public support for such monopoly action.

Harmon presents a cogent argument for this plan. If there is to be any interference with free market prices, a better case can be made for the

stabilization of primary commodity prices than for others. In several areas we could scarcely do worse than our past performance. But one would like to hear from the negative team before casting his decision for or against the Harmon scheme.

Clark Lee Allen
Southern Illinois University

Interindustry Economics. By Hollis B. Chenery and Paul G. Clark. New York: John Wiley & Sons, 1959. Pp. xv, 345. $7.95.

This book consists of a comprehensive survey of interindustry analysis—theory, techniques, and empirical applications, as well as limitations and problem areas. Interindustry analysis is a formidable exercise in macroeconomics and econometrics. In the field of national income accounting, it is a rival method of the earlier "national product" approach of Kuznets and the later "flow of funds" approach of Copeland. Interindustry economics, however, goes far beyond national income accounting in its many uses and applications. It can be used also for an analysis of the structure and performance of the national or regional economy on an aggregated or disaggregated basis, for policy guidance on many problems such as mobilization, material and resource allocations, imports and exports, economic growth and development, and, to some limited degree, for prediction and forecasting.

Basically interindustry economics begins with the pioneering input-output work of Leontief in 1931 and continues down through the important activity analysis and linear programming work of Dantzig and Koopmans in 1951, plus later developments. The basic theoretical ideas, however, go all of the way back to Quesnay, Walras, Pareto, and Cassel. At the present time, interindustry models have been constructed for over twenty nations of the world.

The two authors are qualified eminently for the task that they set for themselves. Both worked with input-output analysis as a tool of economic research at Harvard, and subsequently made an extensive input-output study of the Italian economy directed at answering important policy questions. Since then they have worked separately with various interindustry research teams in United States, Japan, and South America.

The first half of the book is devoted to interindustry theory starting with the simplest static input-output model, then going on successively to dynamic input-output models, the more advanced linear programming models, and finally to combined input-output and linear programming models. In terms of statistical implementation and empirical testing, the data requirements of alternative models and the realism of their underlying assumptions, particularly the fixed technical input coefficients of production of the Leontief input-output model, are discussed in great detail.

The authors conclude correctly that the choice of model to be used depends upon the particular problems to be studied and the data available. Linear programming models require much more data than input-output models but they provide a way of getting around the questionable assumption of fixed technical input coefficients of production. Also the former can provide for choice among various alternatives such as imports versus domestic production. The main deficiency of input-output models is that the parameters are out of date when obtained. Input-output analysis, perhaps, is best for studying the economy as a whole, whereas more advanced analysis is necessary for detailed study of individual sectors, and for planning and prediction purposes.

The second half of the book is devoted to the application of interindustry economics in ten countries of the world including the United States Emergency Model made in 1952 in connection with the Korean War, which unfortunately was abruptly dropped by the government before it was completely evaluated and which has never been declassified. Items discussed include an international comparison of the structure of production in various countries of the world; structural analysis as it relates to individual industries, international trade, final demands, primary factors, and prices; projections of the economic structure of the Italian, Columbian, Argentinian, and American economies, on the basis of expansion goals; resource allocation and structural disequilibrium in underdeveloped economies and the relationship of linear programming to development programs; and finally interregional studies and analysis.

The authors conclude that interindustry analysis is general equilibrium economics confronted with statistical measurement, and that the size of future models (the largest attempted has five hundred sectors) will be limited more by inter-

pretational difficulties than by data or computational problems. In view of the pioneering work of Henry Schultz, Elmer and Holbrook Working, Joel Dean, and others, the reviewer would hesitate to agree with the conclusion of the authors on partial equilibrium analysis that neither the supply nor the demand curve has proved subject to reliable statistical measurement.

Eight theoretical models in all are discussed in both algebraic and verbal form so both mathematical and nonmathematical economists can profit by reading it. The book is well written and makes an important contribution to the economic literature. An excellent bibliography is provided at the end of each chapter for those readers who wish to pursue the subject more fully and in greater detail.

ERVIN K. ZINGLER
University of Houston

Measurement: Definitions and Theories. Edited by C. West Churchman and Philburn Ratoosh. New York: John Wiley & Sons, 1959. Pp. viii, 274. $7.95.

This book is made up of a collection of essays on the subject of measurement. Of the fourteen contributors half are in the fields of philosophy and psychology, while the rest are in such diverse fields as business administration, economics, mathematics, physics and statistics. On the whole the treatment is abstract and philosophical; since each contributor is trying to probe foundations of measurement, the essays are all rather sophisticated. The study is divided into four areas: meanings of measurement, theories of measurement, problems in the physical sciences, and problems in the social sciences.

In the first essay on meanings of measurement Caws, a philosopher, rejects operationism, stating that "one is constantly turning to conceptual ideas in order to understand what operationism is saying." Surveying the problem of measurement in psychology, Stevens classifies scales of measurement into five categories—nominal, ordinal, interval, ratio, and logarithmic interval, and points out that each such scale can be transformed into another such scale by a given type of transformation. Related discussions of empirical problems in psychophysics and utility follow. Kircher surveys problems of measurement in management in a simple and comprehensive essay, but the treatment suffers from the lack of a definite mode of attack on the subject. Churchman, a coeditor, discusses measurement with reference to the problem of decision making in a lucid discussion.

In the theories of measurement section Menger, a mathematician, develops the concept of a "fluent," a collection of pairs associating one of a class of objects with a corresponding number. Thus a collection of pairs associating a set of persons with measured heights would constitute a fluent. Menger develops a mathematical theory with reference to fluents and a so-called identity function which serves to avoid misunderstandings often encountered in this area. Suppes formalizes a "language for expressing the results of mass measurements," stressing the concept of empirical meaningfulness. This is an elegant essay, but the demands on the reader are large. Luce virtually repeats a contribution of his already published in *Games and Decisions*, a book written by him in colaboration with Raiffa; the essay builds up a utility scale from a set of eleven axioms.

The section on problems in the physical sciences is quite interesting but perhaps not deserving of much comment here. One important topic discussed is the Heisenberg uncertainty principle, according to which the position and momentum of a particle "cannot be measured simultaneously with unlimited precision."

In the section on problems in the social sciences Coombs attributes inconsistencies in preferences of individuals to "psychological distance," as is customary, and a new variable called "laterality" and meaning the placement of stimuli relative to an ideal or standard value of the item observed. In an experiment involving the choice of colors by a set of subjects the author found support for the use of "laterality" as a cause of inconsistencies in preferences. Davidson and Marshak build up from a set of axioms a theory of utility involving chance. In testing conclusions concerning transitivity of alternatives and transitivity of utility intervals the authors set up an experiment with a group of students who were presented with choices involving winning and losing small sums of money. The authors found support for transitivity and also concluded that their theory was a better predictor than one based on actuarial or minimum risk hypotheses.

JOHN S. HENDERSON
University of Alabama

The Compilation of Manufacturing Statistics. By Frank A. Hanna. Washington, D. C.: Bureau of the Census, 1959. Pp. xiv, 233. $1.75.

This small volume is solidly packed with useful and interesting information. Professor Hanna has performed a valuable service in presenting us with a discussion of problems and processes involved in collecting and compiling manufacturing statistics. Much of the material has been previously unavailable except to those who had the opportunity to work at the Bureau of the Census. While this book cannot serve as a substitute for such experience, it will be immensely useful to various groups. I expect that it will be required reading for the users of industrial statistics, for professionals in statistical agencies of developing economies, and for junior professionals entering employment with the Bureau of the Census. It should be required reading for others as well: those who teach statistics, those who wonder about the "disclosure" problem and the confidentiality of Census data, and those who complain about inefficiency of Government bureaucracy. Hanna does not propagandize; he simply tells us how the Bureau of the Census collects manufacturing statistics. We cannot fail to be impressed with the manner which a task of such magnitude is handled and with Hanna's discussion of the problems encountered.

The individual chapters discuss the following subjects: Scope of Manufacturing in the United States; Measuring Manufacturing Activity; What Can Manufacturers Report?; Classifying Industrial Activity; Classifying Industrial Product; General, Special, and Confidential Information; Classified Industrial Directory; Collecting the Returns; Pretabulation Processing of Returns; Tabulating Industrial Data; Publication and Distribution; Implications for Programming Industrial Statistics.

It is to be hoped that this volume will be revised as major changes occur in Census procedures and, further, that reader response (both inside and outside the Bureau of the Census) will stimulate the Bureau to collect and publish a complete record of the manner in which a major census was carried out.

I was impressed by Hanna's brief discussion (pp. 227–228) of the need for analytical studies and the need for Bureau responsibility in this field. Undoubtedly Bureau analysts are best equipped to prepare such studies. It is to be regretted that the Bureau does not publish a journal (e.g., Monthly Census Review) as do various other agencies. Such a journal would provide the economics and statistics professions (as well as others) with continuing important information and Bureau analysts with a vehicle for publication. It should, therefore, be of considerable benefit to all.

Hanna is to be congratulated on a fine piece of work. The Bureau of the Census is to be thanked for sponsoring it. This reviewer's only regret is that it was published after (rather than before) he spent a year's assignment at the Bureau. The usefulness of the volume is attested to by the fact that even after that year he learned much from Hanna's presentation.

RASHI FEIN
University of North Carolina

The American Petroleum Industry: The Age of Illumination, 1859–1899. By Harold F. Williamson and Arnold R. Daum. Evanston, Ill.: Northwestern University Press, 1959. Pp. xvi, 864. $7.50.

Appearing as it does in the centennial year of the American petroleum industry, this book by Williamson and Daum is a major contribution to the history of American industries. The first volume of a projected two-volume work, this 864-page presentation is concerned with the first forty years of the industry's development after the drilling of the first commercial oil well. By way of background, the authors devote the first two parts of their study to a description of the interest in petroleum from ancient times to its use for medicinal purposes in early America and to an investigation of illumination materials, particularly coal oil, in the 1850's. The other parts provide a description and analysis of the development of the petroleum industry to 1900.

Part III, in addition to telling the familiar story of "Colonel" E. L. Drake and his work at Titusville, is concerned with other early contributors to petroleum development. This section also contains an excellent description of pioneer drilling techniques and shipping difficulties. The fourth part is entitled "The Formative Years" and covers the period from 1862 to 1873. Emphasis is placed here on the spread of production to other areas in Pennsylvania and on changing techniques in production. It was in this period that torpedoing came into use. This is also a period of rapid development in refining

techniques and bulk transport, and a vigorous promotion of both domestic and foreign markets. "These developments combined to make petroleum an outstanding American industry by the early 1870's" (p. 114).

A description of the conditions of instability in the industry due to excess refining capacity and an analysis of the plan of Rockefeller and his associates to exert control over refining and transportation are presented in Parts V and VI. The success of Standard Oil and the Rockefeller interests leads the authors to refer to the 1874–1884 decade as a period of expansion, adjustment, and integration. At the end of the decade, "there was no part of the oil business from the production of crude to the marketing of refined products free of the influence or dominant control of the Standard Trust" (p. 549).

The history of the industry in the last fifteen years of the nineteenth century is largely a history of expansion of petroleum production beyond Pennsylvania and the development of foreign competition. Part VII tells the story of the Appalachian and Ohio-Indiana fields, Standard Oil's entry into production, and the rise of independents who began to compete actively with Standard. Perhaps most disturbing to the Standard Oil interests was the rise of Russia and the Dutch East Indies as competitors in the world trade for petroleum shortly before the end of the period studied. By the turn of the century the implications of these developments made clear the need for action to protect the foreign market.

Despite the detailed presentation of the various aspects of petroleum industry development in its first forty years, there are a few areas to which Williamson and Daum have given only passing attention. For example, much space is devoted to the transport of crude in the early period, but only slight mention is made of the conflict between the teamsters and the pipeline developers. In the history of transport development in the United States, there are a number of instances of conflict between existing and new forms of transport. This is one of them, and it is of significance in the early development of the pipeline industry, the development of which is so closely related to developments in the petroleum industry.

In the authors' own words, the major purpose of the preparation of the materials used in this volume "was to present an over-all, integrated, and objective account of the evolution of the American petroleum industry that general readers would find both interesting and understandable." They have accomplished this goal without sacrificing scholarly standards of presentation. The book is a well-written, detailed study of nineteenth-century developments in the petroleum industry.

JOHN E. ALTAZAN
Louisiana State University in New Orleans

Wage Determination: An Analysis of Wage Criteria. By Jules Backman. Princeton: Van Nostrand Co., 1959. Pp. xv, 316. $6.75.

A number of books on wage theory have appeared over the past five or six years, some of which have included the term "wage determination" in their titles. The volume under review, although entitled "Wage Determination" does not deal with wage theory. The subtitle "An Analysis of Wage Criteria" is more descriptive. As the author states in the preface, it "...discusses wage determination as it has evolved in collective bargaining." It is designed, he continues, "...to help the student understand the wage-setting process in practice, and to help the industrial relations expert see the entire framework within which he is operating...."

With this purpose in mind, the author, following an introductory chapter dealing with "The Nature of Wages," considers the six criteria which he finds have assumed increasing importance in collective bargaining negotiations: wage comparisons, cost of living, workers' budgets, productivity, ability to pay, and economic environment. He warns the reader that not all these criteria are universally accepted, that there may be disagreement as to the weight to be attached to any one of them, and that such weight as may be given them may vary from time to time. However, he points out, they provide the framework within which the final agreement will fall. And if no agreement is reached through negotiations and the matter goes to arbitration, the forthcoming decision will also fall within this framework.

The author finds that the wage comparison criterion plays a major role in collective bargaining, and also that it has been given primary consideration when the wage issue has gone to arbitration. He notes, however, that there are a number of problems connected with its use. For

one thing, job descriptions are frequently misleading and it is difficult to find comparable jobs. For another, there is the question of the appropriate comparison—shall it be basic wage rates, average straight-time hourly earnings, gross hourly earnings, or what? Having selected the proper comparison, there is the problem of finding adequate data. The whole matter is further complicated by non-wage benefits—a chapter is devoted to the nature and extent of this important development—which must be considered a part of the employees' remuneration.

The cost of living is a major criterion, especially during periods of rising prices. The trend toward long-term contracts has brought about the introduction of escalator clauses in a number of major industries. The author finds this device objectionable because, first, resulting cost-of-living increases contribute to pressures upon costs which lead to further price increases; and second, the gains enjoyed by workers thus protected are made, in part, at the expense of other groups, particularly those with fixed incomes. Professor Backman favors wage reopening clauses which make wage increases permissible rather than mandatory.

The family budget criteria, while useful in the determination of minimum wages, is found unsatisfactory in connection with the average wage negotiation for a number of reasons, e.g., its limited applicability when a family of four is used because of the small proportion of families of this size, the fact that wages are attached to the job rather than to the individual worker, etc. Similarly, the ability-to-pay criterion is not looked upon with favor. Adherence to such a theory "... would result in chaotic wage structures, reduce corporate savings, impair incentives ... and cause wages to fluctuate erratically."

The productivity factor is one that is widely used in wage negotiations, but here again the author questions its validity as a reason for wage increases. Increased output per manhour is found to result primarily from new capital investment and mechanization rather than from increased labor efficiency and effort, and would it not therefore be more equitable to extend these gains to all classes through price reduction rather than to favor one class with wage increases? The annual improvement factor, introduced by General Motors in 1948, is found wanting on a number of grounds, including its incompatibility with "dynamic unionism." Economic environment, i.e., the general level of business activity, is found to be a major conditioning factor in determining the outcome of wage negotiations.

The unions are going to find little in this volume to cheer about. The conclusions reached by the author in connection with the foregoing criteria point, for the most part, against rather than for wage increases. Moreover, he finds little merit in their holy of holies—the argument that higher wages mean more purchasing power and thus better times for all.

The student, on the other hand, can feel grateful to Professor Backman. He has brought together the important criteria used in wage negotiations and has presented them in a well organized and well written volume. He has appraised their validity, and has discussed the sources and adequacy of the data appropriate to each. All this should prove extremely useful to the student—and he is under no obligation to concur in all of the author's conclusions.

H. D. Wolf
University of North Carolina

Family Allowances: An Analysis of Their Development and Implications. By James C. Vadakin. Coral Gables, Fla.: University of Miami Press, 1958. Pp. xiii, 185. $4.95.

This volume brings together a mass of material concerning the experiences of various countries with welfare programs based on the concept of family or children's allowances. Following a foreword by Senator Richard L. Neuberger, the author of Senate Resolutions concerning family allowances, the book is divided into seven chapters: Chapter I: "The Nature of Family Allowances," Chapter II: "Development of the Movement," Chapter III: "The Canadian Program," Chapter IV: "Child Welfare Aspects," Chapter V: "Demographic Considerations," Chapter VI: "Economic Effects," and Chapter VII: "Implications for the United States." There is very little deliberate transition from one chapter to the next in this volume as the author has chosen to elaborate on rather broad topics which he feels deserve special attention. After a general discussion of the case for family allowances and an historical account of their development beginning with the Speenhamland Experiment, Mr. Vadakin focuses attention on the Canadian experience since "as our close

neighbor, we should have a particular interest in all Canadian economic, political, and social developments.... We have in the family allowances program of that country an opportunity to witness such an experiment at first hand in a nation with an environment very much like our own." Subsequent to the first three chapters, the author presents data in regard to certain specific factors of family allowances, namely: child welfare aspects in which case studies are relied upon; population problems; and some of the economic effects of family allowances particularly as they are related to income distribution, particular industries, wage rates, labor mobility, and incentives. The concluding chapter discusses in some detail the proposal of Senator Douglas, which was made in 1925, advocating a system of family wages. Mr. Vadakin also stresses the need for study in the United States of all types of schemes pertaining to family allowances, since there is a possibility that we shall want to experiment with some of them in the future.

The idea of family allowances is an interesting one. No one would take issue with the general proposition that a nation's children must be adequately cared for as far as the basic necessities of life are concerned. A nation stands to gain in many ways if its young people are properly fed, clothed, educated and given a reasonable opportunity for mental and physical development. The goal of maximum security for children is acceptable, but the means toward the attainment of the goal may be questionable. There are many alternative ways of alleviating the problem of child welfare in addition to family allowances wherein a certain cash grant is paid according to the number of children in the family. Some of the alternatives are: (1) the supplying of food and clothing directly to the needy, (2) giving free educational facilities to those who otherwise would not have them, and (3) the provision of medical and dental treatment without undue expense. It is not clear that Mr. Vadakin prefers family allowances to any of the alternative schemes which may be adopted. The objective of the book is not clearly stated, and there is no systematic analysis of family allowances as a satisfactory solution to the problem of child welfare in the United States. Mr. Vadakin is aware of the shortcomings of the various schemes of family allowances, and he reports without apparent bias the failure of the schemes to work in different parts of the world. The study becomes more or less an historical account based on case studies rather than an attempt to set up family allowances as the best of several ways of taking care of child welfare. One may get the general impression in the early part of the book that the latter was going to be the author's theme.

This well-written volume is a significant contribution to the rather sparse literature in the field of family allowances. As a survey of various family allowances schemes that have been tried in many parts of the world over a long period of time, the book is excellent. It does not, however, represent a very strong case for the adoption of family allowances in the United States. Mr. Vadakin's implication is correct that the whole area of research calls for some sustained thinking along informed lines.

RICHARD L. ROWAN
University of North Carolina

NOTES

PROGRAM OF THE TWENTY-NINTH ANNUAL CONFERENCE OF THE SOUTHERN ECONOMIC ASSOCIATION

Hotel Robert Meyer, Jacksonville, Florida, November 20 and 21, 1959

Friday, November 20, 1959

Morning Sessions

10:00 A.M.—Seminar A: *The Theory of Profit.*

Chairman: Fritz Machlup, The Johns Hopkins University.

1. "Rehabilitation of Naive Profit Theory," Martin Bronfenbrenner, University of Minnesota. Discussion: Nicholas Georgescu-Roegen, Vanderbilt University.
2. "Profit Theory and Applications," J. Fred Weston, University of California, Los Angeles. Discussion: John S. Henderson, University of Alabama.
3. "Equilibrium, Competition, and Profit," Alfred Sherrard, American University. Discussion: R. W. Pfouts, University of North Carolina.

10:00 A.M.—Seminar B: *Latin American Economic Growth.*

Chairman: William P. Dillingham, Florida State University.

1. "Inflation and Growth: The Case of Brazil," Aurelius Morgner, A and M College of Texas. Discussion: Reynold E. Carlson, Vanderbilt University.
2. "The Main Experiences and Policies of the Industrial Revolution in Latin America," Pedro Teichert, University of Mississippi. Discussion: Robert L. Sammons, Board of Governors of the Federal Reserve System.
3. "Puerto Rico's Tax Exemption and the Principle of Gross Avarice," David F. Ross, Bethany College. Discussion: Harry Stark, University of Miami.

10:00 A.M.—Seminar C: *Public Regulation of Rate Making.*

Chairman: William D. Ross, Louisiana State University.

1. "The Economics of Natural Gas Rate-Making by the Federal Power Commission," Eli W. Clemens, University of Maryland. Discussion: Charles E. Landon, Duke University.
2. "Telephone Rate Regulation in Louisiana," James P. Payne, Louisiana State University. Discussion: Harold L. Johnson, Emory University.
3. "The Value-of-Service Principle in Motor Truck Rate Making," William D. Maxwell, Tulane University. Discussion: Milton Z. Kafoglis, University of Florida.

10:00 A.M.—Seminar D: *Labor Economics.*

Chairman: Frank T. de Vyver, Duke University.

1. "Some Unsettled Problems in Wage Theory," Allan M. Cartter, Duke University. Discussion: Ray Marshall, Louisiana State University.
2. "A Reappraisal of Regional Wage Differentials," James A. Morris, University of South Carolina. Discussion: Robert L. Bunting, North Carolina State College.
3. "Implications for the Texas Trade Union Movement of Some Projected Changes in the Texas Labor Force," E. Eugene Liebhafsky, A and M College of Texas. Discussion: Norman Wood, University of Georgia.

10:00 A.M.—Seminar E: Marketing Program, *A Sociological Institution.*

1. "Marketing and Society," W. T. Tucker, University of Texas. Discussion: Chauncey S. Elkins, Stetson University; Harry A. Mitchell, Tulane University.
2. "Selling to the Social Classes," Steven Shaw, University of South Carolina. Discussion: W. R. Bennett, University of Alabama; C. A. Kirkpatrick, University of North Carolina.

10:00 A.M.—Seminar F: *Management Program, A New Approach to the Study of Management—Functional.*

Dalton McFarland, Michigan State University.

Moderator: Claude S. George, Jr., University of North Carolina.

11:00 A.M.—Seminar F: *Management Program, Planning Theory.*

W. V. Wilmat, Jr., University of Florida.

12:30 P.M.—Marketing Luncheon.

Speaker: Reavis Cox, President, American Marketing Association.

12:30 P.M.—Management Luncheon, "Where Are We Going in Management Education?"

Introduction: E. H. Anderson, University of Alabama.

Speaker: Merten J. Mandeville, University of Illinois, President of the Academy of Management.

Afternoon Sessions

2:30 P.M.—Seminar A: *Coordination of Monetary and Fiscal Policy.*

Chairman: Clement H. Donovan, University of Florida.

1. "Division of Labor Among Fiscal, Monetary and Debt Management Policy," Herbert Stein, Committee for Economic Development. Discussion: Alfred P. Johnson, Federal Reserve Bank of Alanta.
2. "Monetary-Fiscal Policy and the Growth Objective," James R. Schlesinger, University of Virginia. Discussion: Clayton Curtis, University of Florida.
3. "Embryonic Central Banking Policy in the Nineteenth Century," Richard H. Timberlake, Jr., Florida State University. Discussion: Eugene Lerner, City College of New York.

2:30 P.M.—Seminar B: *Economic Problems of Metropolitan Areas.*

Chairman: Richard F. Muth, University of Chicago.

1. "Normative Aspecsts of Metropolitan Finance," Charles M. Tiebout, University of California, Los Angeles. Discussion: Werner Z. Hirsch, Resources for the Future.
2. "Economics of Parking," Frank Howard, University of Mississippi. Discussion: C. E. Ratliff, Jr., Davidson College.
3. "Demand and Fare Structures in the Transit Industry," Carl Stern, Randolph-Macon Woman's College. Discussion: R. E. Westmeyer, University of Arkansas.

2:30 P.M.—Seminar C: *Economic Accounting.*

Chairman: Frank A. Hanna, Duke University.

1. "National Income and the National Balance Sheet," John O. Blackburn, Duke University.
2. "Money-Flows and the Product Accounts: United States and Canada," John F. Haberer, New England Life Insurance Company.
3. "The National Balance Sheet, National Income, and the Flow of Funds," Robert E. Hill, University of Illinois. Discussion: Stanley J. Sigel, Board of Governors of the Federal Reserve System; Almarin Phillips, University of Virginia.

2:30 P.M.—Seminar D: *Economics of Education and Health.*

Chairman: W. David Robbins, University of Richmond.

1. "The Financing and Administration of Education," John Van Sickle and Ben A. Rogge, Wabash College. Discussion: W. H. Read, University of Tennessee.
2. "The Value of Human Capital," Burton A. Weisbrod, Washington University. Discussion: Stephen L. McDonald, Louisiana State University.
3. "Financing of Medical Expenses," Rashi Fein, University of North Carolina. Discussion: Richard E. Johnson, Southern Methodist University.

2:30 P.M.—Seminar E: *Marketing Program, Marketing in an Educational Institution.*

1. "The Use of Cases in the Teaching of Business Administration," Preston Le Breton, Louisiana State University.
2. "Current Developments in Marketing Theory," Donald F. Mulvihill, University of Alabama. Discussion: Frank Charvat, Emory University; and Dennis Crites, University of Oklahoma.

2:30 P.M.—Seminar F: *Management Program, Panel Discussion on Selected Topics.* Moderator: Leon Megginson, Louisiana State University.

6:00 P.M.—Dinner Meeting of Officers, Editors, and Correspondents.

Evening Session

8:00 P.M.—President's Address.

Chairman: George Stocking, Vanderbilt University. "Southern Tradition and Regional Economic Progress," William H. Nicholls, Vanderbilt University.

Saturday, November 21, 1959

9:00 A.M.—Annual Business Meeting.

10:00 A.M.—Seminar A: *Recent Developments in Antitrust Policy.*

Chairman: James M. Waller, University of Georgia.

1. "Recent Developments in Price-Fixing Cases: Theory and Policy," Almarin Phillips, University of Virginia. Discussion: Jesse W. Markham, Princeton University.
2. "Fair Profits in a Regulated Industry," Gunther Ruff, Georgetown University. Discussion: George Macesich, Florida State University.
3. "Current Issues in Antitrust Administration," Frank J. Kottke, Federal Trade Commission. Discussion: Donald Dewey, Duke University.

10:00 A.M.—Seminar B: *Income Distribution and Redistribution.*

Chairman: Charles T. Taylor, Federal Reserve Bank of Atlanta.

1. "British Income Distribution in 1938, 1949, and 1955," John A Brittain, Vanderbilt Uni-

versity. Discussion: Selma F. Goldsmith, U. S. Department of Commerce.

2. "Income Distribution and Economic Structure," Charles T. Stewart, Jr., U. S. Chamber of Commerce. Discussion: Herman P. Thomas, University of Richmond.

3. "Income Distribution and Southern Economic Development," Werner Hochwald, Washington University. Discussion: Charles E. Ferguson, Duke University.

10:00 A.M.—Seminar C: *International Trade*. Chairman: Clark Lee Allen, Southern Illinois University.

1. "The International Transfer of Know-How Through Licensing: Some Theoretical and Policy Questions," Wilson Schmidt, George Washington University. Discussion: Morris Adelman, Massachusetts Institute of Technology.

2. "Capital Yields in Backward Countries," Carter Murphy, Washington University. Discussion: E. M. Shamsedin, University of South Carolina.

3. "The International Monetary Fund and International Adjustment," William R. Allen, University of California, Los Angeles. Discussion: Lawrence F. Mansfield, Hollins College.

SOUTHERN ECONOMIC ASSOCIATION

Receipts and Expenditures—Sept. 30, 1958–Sept. 30, 1959

Cash on Hand, First National Bank, Atlanta, Ga., Sept. 30, 1958			$623.93
Receipts from Dues		$5,073.50	
Expenditures			
Southern Economic Journal	$4,305.00		
Convention Program, printing and mailing	251.60		
Convention Expense	124.08		
Printing, Stationery, Postage	191.10		
Addressing Supplies	29.20		
Total Expenditures		4,900.98	
Gain for Year			172.52
Cash on Hand, First National Bank, Atlanta, Ga., Sept. 30, 1959			$796.45

Savings Account

Balance, Sept. 30, 1958, First National Bank, Atlanta, Ga.	$645.48
Interest	19.49
Balance, Sept. 30, 1959, First National Bank, Atlanta, Ga.	$664.97

Comparative Statistics

	Receipts	Expenditures	Gain/(Loss)
Year Ended Sept. 30, 1957	$3,975.40	$4,188.39	$ (212.99)
Year Ended Sept. 30, 1958	3,711.80	3,885.22	(173.42)
Year Ended Sept. 30, 1959	5,073.50	4,900.98	172.52

Walter Kennon
Secretary-Treasurer

THE SOUTHERN ECONOMIC JOURNAL

Receipts and Expenditures, 1958–1959

Balance, November 1, 1958			$5,598.64
Receipts			
University of North Carolina			
Balance Annual Grant for 1958–1959	$1,000.00		
Advance Annual Grant for 1959–1960	1,000.00	$2,000.00	
Southern Economic Association			
Annual Membership Dues	$3,123.00		
Institutional Membership Dues	800.00		
Student Membership Dues	112.50		
Contributing Membership Dues	30.00	$4,065.50	
Office of Managing Editor			
Subscriptions to Journal	$3,605.14		
Advertising	2,271.43		
Sales of Individual Copies	736.00		
Building and Loan Dividends	185.96		
Miscellaneous	243.25	$7,041.78	
Total Receipts			$13,107.28
Total Balance and Receipts			$18,705.92
Expenditures			
Printing the Journal	$8,356.32		
General Expense	461.05		
Other Printing	175.25		
Postage	416.50		
Supplies	78.37		
Advertising	72.50		
Secretary's Salary and Wages	2,524.91		
Reinvestment in Building and Loan	92.17		
Travel	50.40		
Refunds	17.50	$12,244.97	
Investment Account			
Balance November 1, 1958	$5,267.10		
Dividends	185.96		
	$5,453.06		
Less transfer to checking account	$1,093.79	$4,359.27	
Balance October 31, 1959		$2,101.68	$18,705.92
Fund Balances			
Checking account, University National Bank, Chapel Hill, N. C.			$2,101.68
Investment account, Orange County Building and Loan Association, Chapel Hill, N. C.			4,359.27
Total Funds, October 31, 1959			$6,460.95

G. T. Schwenning
Managing Editor

DEATH

J. B. Bearnson, visiting professor of economics at Birmingham Southern College, died on October 17, 1959.

APPOINTMENTS, PROMOTIONS AND RESIGNATIONS

A. L. Addington has been appointed teaching fellow in the Department of Economics of East Tennessee State College.

Stanley A. Arbingast has been promoted to professor of resources in the College of Business Administration, University of Texas.

Lowell D. Ashby, professor of economics, has been appointed Drexel research professor for 1959-1960 in the School of Business Administration, University of North Carolina.

William H. Baughn, chairman of the Department of Finance at the University of Texas, has been appointed associate dean of the College of Business Administration.

Owen D. Belcher has resigned as assistant in agricultural economics at Auburn University, to accept an appointment as agricultural economist with the U. S. Study Commission, Southeast River Basins, in Atlanta, Georgia.

John P. Bigger has been promoted to instructor in industrial management at Georgia Institute of Technology.

George W. Bishop, Jr., formerly of Merrill, Lynch, Pierce, Fenner & Smith, has been appointed assistant professor of finance at the University of Tennessee.

Everett R. Bollinger, assistant professor of industrial management at the Georgia Institute of Technology, is on leave working on his doctorate at the University of Indiana.

William H. Bonner, assistant professor of office management at the University of Tennessee, has been granted a leave of absence to study for the doctorate at Ohio State University.

R. O. Boston was promoted to associate professor of economics at Auburn University, effective September 1959.

Ralph H. Bowles has been promoted to instructor in industrial management at Georgia Institute of Technology.

Allen J. Brown was appointed assistant in agricultural economics at Auburn University, effective September 1959.

James M. Buchanan, professor and chairman of the James Wilson Department of Economics at the University of Virginia, has been elected vice president of the Southern Economic Association for the year 1959-1960. He has also been appointed a member of the Committee on Grants-in-Aid of the Social Science Research Council for 1959-1960.

Norman Burke is serving as lecturer in the Graduate Program in Business Administration at Rollins College during the current academic year.

J. F. Burney has been appointed instructor of accounting at Austin Peay State College (Tenn.).

Elizabeth Byars has resigned as instructor in secretarial science, Kentucky Wesleyan College.

Edwin L. Caldwell, who recently completed the requirements for the doctorate at Harvard, has been promoted to professor of economics at Baylor University.

Allan M. Cartter, who was appointed dean of the Graduate School of Arts and Sciences, Duke University, last fall, has been promoted to professor of economics.

Woodrow Castle has been appointed assistant professor of economics at East Tennessee State College.

Michael Clare has resigned as lecturer, Department of Economics and Business Administration, Bellarmine College.

George Clark, agricultural economist of the U.S. Department of Agriculture, stationed in the Department of Agricultural Economics at Auburn University, returned to his research position at Auburn in January following a six months' military leave.

Edith Conyers has been appointed instructor in secretarial science, Morehead State College (Kentucky).

Albert Craig has been appointed lecturer in management and statistics at the University of Tennessee.

Joseph Marvin Crews has been appointed part-time instructor in economics in the School of Business Administration, University of North Carolina, effective February 1960.

Sherman F. Dallas, formerly with the Federal Mediation and Conciliation Service, has been appointed associate professor of industrial management at the School of Industrial Management, Georgia Institute of Technology.

John L. Davidson has been promoted to assistant professor of management and marketing at Louisiana State University.

George Dickens has been appointed instructor in accounting and business administration, Kentucky Wesleyan College.

Charles H. Dodge has been appointed instructor in accounting at the University of Tennessee.

Frank Dougherty has resigned as lecturer, Department of Economics and Business Administration, Bellarmine College.

Kathleen Drummond, School of Business, University of Louisville, has been granted sabbatical leave for 1959-60 to study at Northwestern University.

Fred Allen Engle, Jr. has been appointed in-

structor in the Department of Commerce and Economics, Eastern Kentucky State College.

Rashi Fein, associate professor of economics at the University of North Carolina, has been appointed a member of the board of editors of the *Southern Economic Journal.*

C. S. Ferguson, formerly of the University of Florida, has been appointed associate professor of business adminstration at East Tennessee State College.

Clinton Ferguson has been appointed associate professor in the School of Business, Richmond Professional Institute.

Paul Joseph FitzPatrick was promoted to ordinary professor of economics at Catholic University of America, effective November 1959.

Francis W. Gathof has been promoted to assistant professor of economics at American University, effective September 1959.

Glenn S. Gentry, chairman of the Department of Business Administration at Austin Peay State College (Tenn.), has been granted a leave of absence during 1959-1961 to serve as adviser in business administration to the colleges in Sudan, Africa.

Jean Glazener is now teaching secretarial science at Arkansas A & M College.

Charles Grenier is now teaching business administration at Arkansas A & M College.

Robert Glover has been appointed assistant professor of economics at Austin Peay State College (Tenn.).

Craufurd D. Goodwin, part-time visiting assistant professor in the Department of Economics and Business Administration, has been appointed executive secretary of the Commonwealth Studies Center, Duke University.

Wade F. Gregory, agricultural economist of the Agricultural Research Service, United States Department of Agriculture, stationed at the Alabama Agricultural Experiment Station of Auburn University, was granted a 12 months' extension in leave of absence, effective July 1, 1959, to continue work on his present assignment in Chile.

Robert L. Grinaker has been promoted to associate professor of accounting in the College of Business Administration, University of Texas.

Tommy P. Hall has returned to Georgia Institute of Technology from a leave of absence to work on his doctorate at the University of Alabama, and has been appointed assistant professor of industrial management.

Vernon L. Harness resigned as assistant agricultural economist at Auburn University to join the Washington staff of the Foreign Agricultural Service in September 1959.

R. Murray Havens, professor and head of the Department of Economics at the University of Alabama, was elected vice president of the Southern Economic Association for 1959-1960.

Tyler F. Haygood has resigned as professor of economics, School of Business, University of Louisville.

John J. Hooker, formerly assistant professor of economics at Catholic University of America, has been appointed head of the Department of Economics at that institution, effective November 1959.

James R. Hurst has accepted an appointment at Auburn University as assistant in agricultural economics.

T. W. Hutchison, of the University of London, is visiting professor of economics at the University of Virginia during the second term of the present academic year.

James C. Ingram, associate professor of economics at the University of North Carolina, has been granted leave of absence during the spring semester and summer of 1960 to study the Puerto Rican balance of payments and money flow to and from the mainland.

Roy A. James retired as associate professor of industrial management at Georgia Institute of Technology in June 1959.

Max B. Jones, formerly of the University of North Carolina, has been appointed acting associate professor of management in the College of William and Mary.

Thomas A. Kelly, formerly chairman of the Departments of Economics and Business Administration at Roanoke College, has become chairman of the Department of Business Administration at Lynchburg College.

Algin B. King has been promoted to professor of marketing in the College of William and Mary, and has been appointed director of the College's newly organized Bureau of Business Research.

Gloria Kishi has been appointed instructor in economics at the University of Houston for the 1959-1960 academic year.

Charles E. Landon, professor of economics in the Department of Economics and Business Administration, Duke University, is serving as acting director of Undergraduate Studies for the academic year 1959-1960.

William L. Larger, School of Business, University of Louisville, has been granted sabbatical leave for 1959-60 to study at Indiana University.

Marlin V. Law has been appointed assistant professor of industrial management at the School of Industrial Management, Georgia Institute of Technology.

John E. Lee, Jr. resigned as assistant in agricultural economics at Auburn University to enter the School of Graduate Studies at Harvard University.

Maurice W. Lee, dean of the School of Business Administration, University of North Carolina, has been appointed by the Brookings Institution for a three-year term to the Selection Committee responsible for choosing recipients of distinguished Brookings research professorships. He has also been selected by the Conference Board of Associated Research Councils to serve on its Committee on International Exchange of Persons.

Benjamin F. Lemert, recently promoted to professor of economics in the Department of Economics and Business Administration, Duke University, was unable to assume his teaching duties in the Fall, 1959, due to illness. He will retire from active teaching in the Spring of 1960.

Raymond V. Lesikar has been promoted to professor of management and marketing at Louisiana State University.

Daniel A. Linton has accepted an appointment at Auburn University as assistant in agricultural economics.

James L. Lucas has been promoted to assistant professor of economics at Virginia Polytechnic Institute.

Edmund C. Lynch has been promoted to assistant professor of management in the College of Business Administration, University of Texas.

Fritz Machlup, professor of economics at Johns Hopkins University, was elected president of the Southern Economic Association for 1959–1960.

William N. Makie has been appointed instructor in economics and history at Virginia Polytechnic Institute.

Charles M. Maddox was appointed assistant in agricultural economics at Auburn University, June 1959.

John W. Manning has been appointed professor of finance, School of Business, University of Louisville.

Ralph Marini has been appointed instructor, Department of Economics and Business Administration, Bellarmine College.

Wendell G. Marston has been appointed instructor in business administration at Virginia Polytechnic Institute.

Mary Ann Martin has been appointed instructor in secretarial science, Morehead State College (Kentucky).

Philip L. Martin has been appointed instructor in economics at Virginia Polytechnic Institute.

W. M. Mayberry was appointed assistant in agricultural economics at Auburn University, effective September 1959.

Eugene C. McCann has been appointed assistant to the dean of the College of Business Administration at Louisiana State University.

Stephen L. McDonald has been promoted to professor of finance at Louisiana State University.

Julian Mettetal is teaching accounting and economics at Arkansas A & M College.

Bill R. Miller resigned as assistant in agricultural economics at Auburn University, effective June 1959, to enter the Graduate School of North Carolina State College.

H. Lynn Miller, instructor in industrial management at Georgia Institute of Technology, is on leave working on his doctorate at the University of Florida.

Simon Naidel was promoted to professor of economics at American University, effective September 1959.

Edward Nelson resigned from Baylor University in order to accept appointment as associate professor of economics at Los Angeles City College, effective September 1959.

Eugene W. Nelson has been promoted to professor of business services in the College of Business Administration, University of Texas.

Margaret Newberry has been promoted to assistant professor of secretarial science at Louisiana State University.

William H. Nicholls, professor and chairman of the Department of Economics and Business Administration at Vanderbilt University, has been appointed chairman of the Committee on Faculty Research Fellowships for the year 1959–1960 of the Social Science Research Council.

Harold L. Nix has been appointed assistant professor of rural sociology at Auburn University, effective September 1959.

Burk A. Parsons, formerly of Texas A and I College, has been appointed associate professor of economics and finance and director of the Bureau of Business Research at Baylor University.

John S. Quinn has been promoted to professor of accounting in the College of William and Mary.

J. G. Reynolds, retired Colonel from the Army who took his M.B.A. degree in the School of Business Administration, University of North Carolina, last summer, has received an appointment in the School of Business and Industry, Mississippi State University, effective February 1960.

Justin J. Richard, who obtained his Master's degree at the University of Notre Dame last August, has joined the Economics Department of St. Bernard College.

Raymond W. Ritland was promoted to professor in the Department of Economics and Business Administration at Auburn University, effective September 1959.

Leon H. Robertson has been promoted to instructor in industrial management at Georgia Institute of Technology.

Jack S. Ross resigned as assistant agricultural

economist at Auburn University to accept a position with the Farm Credit Administration in New Orleans in September 1959.

William D. Ross, dean of the College of Business Administration, Louisiana State University, was elected a member of the executive committee of the Southern Economic Association.

Doris S. Scates has been appointed instructor in secretarial studies, School of Business, University of Louisville.

Glen L. Schilling has been appointed lecturer, Department of Economics and Business Administration, Bellarmine College.

Matthew J. Semrick has been appointed associate professor of economics in St. Bernard College.

Martha Simpson has been appointed instructor of secretarial science, Kentucky Wesleyan College.

Gehlert D. Smith has been promoted to instructor in industrial management at Georgia Institute of Technology.

Maria Smith, of the economics staff of Huntingdon College, has resigned to accept a position in Washington, D. C.

Robert S. Smith, professor of economics at Duke University, has been elected a member of the board of editors of the *Southern Economic Journal.*

Burnard H. Sord has been promoted to associate professor of management in the College of Business Administration, University of Texas.

Joseph J. Spengler, James B. Duke professor of economics at Duke University, has been named chairman of the Committee on Problems and Policy of the Social Science Research Council.

W. Allen Spivey has been promoted to associate professor of statistics in the School of Business Administration, University of Michigan. During the current academic year he is on leave of absence to serve as visiting associate professor in the Institute of Basic Mathematics at the Harvard University Graduate School of Business Administration, a program sponsored by the Ford Foundation.

Albert D. Sterks, acting head of the Business Administration Department at McNeese State College, has returned to his duties after a year of study at Louisiana State University.

James E. Scott, Jr. has been promoted to instructor in industrial management at Georgia Institute of Technology.

Donald R. Street was appointed assistant in agricultural economics at Auburn University, effective June 1959.

Richard Swanson has resigned as instructor, Department of Economics and Business Administration, Bellarmine College.

Victor P. Tabaka, of Victor Tabaka and Associates, has been appointed professor of industrial management at the School of Industrial Management at Georgia Institute of Technology.

Margaret Teague has resigned as instructor in business education, Harding College, to accept a similar position at George Pepperdine College.

John C. Thompson has been appointed assistant professor of real estate, School of Business, University of Louisville.

C. P. Tseng has been appointed visiting associate professor of economics at the School of Business Administration, Emory University.

Tom Warren has resigned from the Department of Economics and Business Administration, Kentucky Wesleyan College.

Dimiter E. Wassen has resigned as chairman of the Department of Economics and Business Administration at Pfeiffer College.

William H. Wesson, Jr., professor of economics at Louisiana State University, was elected secretary-treasurer of the Southern Economic Association.

John Arch White, formerly acting dean, has been appointed dean of the College of Business Administration, University of Texas.

W. Tate Whitman, professor of economics at Emory University, was elected a member of the executive committee of the Southern Economic Association for 1959–1960.

William David Wubben has been appointed chairman of the Department of Economics and Business Administration at Pfeiffer College.

Leland B. Yeager, professor of economics at the University of Virginia, has been elected a member of the board of editors of the *Southern Economic Journal.*

Fred R. Yoder, formerly of Washington State University, has been appointed chairman of the Division of Social Sciences at Campbellsville College (Kentucky).

Stanley A. Zemelka has been appointed instructor in the Department of Economics and Business Administration, Bellarmine College.

NEW MEMBERS

The following names have been added to the membership of the Southern Economic Association:

Charles C. Abbott, University of Virginia, Charlottesville, Va.

Edward C. Atwood, Jr., Washington and Lee University, Lexington, Va.

J. Fred Bateman, Jr., University of North Carolina, Chapel Hill, N. C.

Joseph Billings, Park College, Parkville, Mo.

George W. Bishop, Jr., University of Tennessee, Knoxville, Tenn.
William C. Biven, Georgia Institute of Technology, Atlanta, Ga.
J. D. Butterworth, University of Florida, Gainesville, Fla.
Webster C. Cash, Florida State University, Tallahassee, Fla.
A. Lee Cobb, University of Georgia, Athens, Ga.
Joseph R. Cowart, Duke University, Durham, N. C.
Dale L. Cramer, University of Alabama, University, Ala.
Jack T. Dobson, Florida State University, Tallahassee, Fla.
James F. Doster, Box 1955, University, Ala.
J. D. Dunn, Box 4007, University, Ala.
William C. Edel, 111 Hillcrest Avenue, Clemson, S. C.
H. C. Edgeworth, Florida State University, Tallahassee, Fla.
Sidney H. Evans, Agricultural and Technical College, Greensboro, N. C.
Ford Motor Company, American Road, Dearborn, Mich.
Gilford Frazee, Clemson College, Clemson, S. C.
Matthew C. Gambuzza, Box 1593, Jacksonville, Fla.
Irving J. Goffman, University of Florida, Gainesville, Fla.
Wendell C. Gordon, University of Texas, Austin, Tex.
William F. Halcomb, Box 190, Chapel Hill, N. C.
Mark Hanna, Auburn University, Auburn, Ala.
William R. Hendley, North Carolina State College, Raleigh, N. C.
Franklin P. Howard, University of Mississippi, University, Miss.
James M. Howell, 6440 South Claiborne Avenue, New Orleans, La.
Charles M. Hummel, Davidson College, Davidson, N. C.
Marshall C. Kinchen, Nicholls State College, Thibodaux, La.
John E. Lewis, Jr., 1405 Cloverdale Gardens, Tuscaloosa, Ala.
Dennis R. Leyden, University Gardens, Charlottesville, Va.
George Macesich, Florida State University, Tallahassee, Fla.
William A. Mauer, 918 Monmouth, Durham, N. C.
Robert G. Menefee, Box 3, Route #1, Babson Park, Fla.
W. E. Mereness, Macmillan Company, 60 Fifth Avenue, New York, N. Y.
Francis N. Millet, Jr., University of North Carolina, Chapel Hill, N. C.
Charles N. Millican, University of South Florida, Tampa, Fla.
Warren B. Nation, Florida State University, Tallahassee, Fla.
Gil Nestel, 1219 South State Street, Ann Arbor, Mich.
Gordon Augustus Noe, 2939 Selma Avenue, Knoxville, Tenn.
Ernest W. Ogram, Jr., 33 Gilmer Street, Atlanta, Ga.
William S. Patrick, Georgia State College, Atlanta, Ga.
Thomas C. Sanders, Federal Reserve Bank, Richmond, Va.
Sheldon Schaffer, 2000 Ninth Avenue South, Birmingham, Ala.
Francis S. Scott, Box 12, University, Miss.
Steven J. Shaw, University of South Carolina, Columbia, S. C.
J. S. Spratt, Southern Methodist University, Dallas, Tex.
Jack Starling, Mississippi Southern College, Hattiesburg, Miss.
William J. Stober, 1057 Nichols Drive, Raleigh, N. C.
Philip B. Stockton, The Citadel, Charleston, S. C.
John R. Tabb, College of William and Mary in Norfolk, Norfolk, Va.
Guy W. Trump, Emory University, Atlanta, Ga.
John E. Walker, Jr., 1443 Gentry Lane, Charlottesville, Va.
W. Bruce Weale, Florida State University, Tallahassee, Fla.
John D. Wells, Box 55, University of Florida, Gainesville, Fla.
Harry C. Wolfe, 3449 Peachtree Road, N. E., Atlanta, Ga.

ERRATUM

Robert W. Paterson, formerly of the University of South Carolina, is now professor of business research and director of the Bureau of Business and Economic Research at the University of Missouri. By error he was listed in the October 1959 issue of this *Journal* as being connected with the University of Mississippi.

BOOKS RECEIVED

Adelman, M. A. *A & P: A Study in Price-Cost Behavior and Public Policy*. Cambridge, Mass.: Harvard University Press, 1959. Pp. xiv, 537. $10.00.

Alexander, Sidney S. and others. *Economics and the Policy Maker: Brookings Lectures, 1958–1959*. Washington, D. C.: Brookings Institution, 1959. Pp. xiii, 209. $2.95.

Balassa, Bela A. *The Hungarian Experience in Economic Planning: A Theoretical and Empirical Study*. New Haven, Conn.: Yale University Press, 1959. Pp. xii, 285. $6.00.

Barbash, Jack (ed.). *Unions and Union Leadership*. New York: Harper & Brothers, 1959. Pp. xxii, 348. $4.50.

Barksdale, E. C. *The Meat Packers Come to Texas*. Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. iii, 36. Paper, $1.00.

Bates, George E. *Investment Management: A Casebook*. New York: McGraw-Hill Book Company, 1959. Pp. x, 433. $7.75.

Bauer, P. T. *United States Aid and Indian Economic Development*. Washington, D. C.: American Enterprise Association, 1959. Pp. vi, 119. Paper, $1.00.

Blair, C. P. and Ryan, Robert H. *Big Spring, Texas: A Study of Economic Potential*. Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. 120. Paper, $2.50.

Blair, Calvin Patton. *Fluctuations in United States Imports from Brazil, Columbia, Chile, and Mexico, 1919–1954*. Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. 225. Paper, $2.00.

Bloomfield, Arthur I. *Monetary Policy Under the International Gold Standard, 1880–1914*. New York: Federal Reserve Bank of New York, 1959. Pp. 62. Paper, 50¢.

Brown, E. H. Phelps. *The Growth of British Industrial Relations: A Study from the Standpoint of 1906–14*. New York: St. Martin's Press, 1959. Pp. xxxvii, 414. $9.50.

Brown, Robert K. (ed.). *Public Housing in Action: The Record of Pittsburgh*. Pittsburgh, Pa.: University of Pittsburgh Press, 1959. Pp. xv, 107. $3.00.

Bry, Gerhard. *The Average Workweek as an Economic Indicator*. New York: National Bureau of Economic Research, 1959. Pp. ix, 115. Paper, $2.00.

Caves, Richard E. and Holton, Richard H. *The Canadian Economy: Prospect and Retrospect*. Cambridge, Mass.: Harvard University Press, 1959. Pp. xiii, 676. $10.00.

Cavin, James P. (ed.). *Economics for Agriculture: Selected Writings of John D. Black*. Cambridge, Mass.: Harvard University Press, 1959. Pp. xi, 719. $12.00.

Committee on Principles of Economics. *Principles of Economics*. New York: Pitman Publishing Corporation, 1959. Pp. xx, 873. $7.25.

Converse, Paud D. *Fifty Years of Marketing in Retrospect*. Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. xiv, 104. Paper, $1.50.

Day, A. C. L. and Beza, Sterie. *Money and Income*. New York: Oxford University Press, 1960. Pp. xv, 634. $7.50.

de Chazeau, Melvin G. and Kahn, Alfred E. *Integration and Competition in the Petroleum Industry*. New Haven, Conn.: Yale University Press, 1959. Pp. xviii, 598. $7.50.

Edwards, Corwin D. *The Price Discrimination Law: A Review of Experience*. Washington, D. C.: Brookings Institution, 1959. Pp. xxii, 698. $10.00.

Erickson, Charlotte. *British Industrialists: Steel & Hosiery, 1850–1950*. New York: Cambridge University Press, 1960. Pp. xxi, 276. $7.50.

Ezekiel, Mordecai and Fox, Karl A. *Methods of Correlation and Regression Analysis: Linear and Curvilinear*. 3rd ed. New York: John Wiley & Sons, 1959. Pp. xv, 548. $10.95.

Fair, Marvin L. and Williams, Ernest W., Jr. *Economics of Transportation*. Rev. ed. New York: Harper & Brothers, 1959. Pp. xii, 684. $8.00.

Farm Labor Fact Book. Washington, D. C.: United States Department of Labor, 1959. Pp. x, 240. Paper, $1.00.

Ferber, Robert. *Collecting Financial Data by Consumer Panel Techniques: A Pilot Study*. Champaign, Ill.: Bureau of Economic and Business Research, University of Illinois, 1959. Pp. x, 177. $2.50.

Frederick, John H. *Improving National Transportation Policy*. Washington, D. C.: American Enterprise Association, 1959. Pp. v, 50. Paper, $1.00.

Friedman, Milton. *The Demand for Money: Some Theoretical and Empirical Results*. New York: National Bureau of Economic Research, 1959. Pp. 25. Paper, 75¢.

Garvy, George. *Deposit Velocity and Its Significance*. New York: Federal Reserve Bank of New York, 1959. Pp. 88. Paper, 60¢.

Goldsmith, Raymond and Saunders, Christopher

(eds.). *The Measurement of Wealth*. Chicago: Quadrangle Books, 1959. Pp. xiv, 389. $7.50.

Gordon, Robert Aaron and Howell, James Edwin. *Higher Education for Business*. New York: Columbia University Press, 1959. Pp. xi, 491. $3.50.

Granick, David. *The Red Executive: A Study of the Organization Man in Russian Industry*. New York: Doubleday & Company, 1960. Pp. 334. $4.50.

Haire, Mason. *Modern Organization Theory*. New York: John Wiley & Sons, 1959. Pp. x, 324. $7.75.

Hanna, Frank A. *State Income Differentials, 1919–1954*. Durham, N. C.: Duke University Press, 1959. Pp. xix, 268. $7.50.

Hanna, Frank A. *The Compilation of Manufacturing Statistics*. Washington, D. C.: U. S. Department of Commerce, Bureau of the Census, 1959. Pp. xiv, 233. $1.75.

Harbison, Frederick and Myers, Charles A. *Management in the Industrial World: An International Analysis*. New York: McGraw-Hill Book Company, 1959. Pp. xiv, 413. $7.00.

Harbrecht, Paul P. *Pension Funds and Economic Power*. New York: Twentieth Century Fund, 1959. Pp. 328. $5.00.

Harrington, Michael and Jacobs, Paul (eds.). *Labor in a Free Society*. Los Angeles, Cal.: University of California Press, 1959. Pp. xi, 186. Paper, $1.50.

Hunt, Pearson and others. *Case Problems in Finance*. Homewood, Ill.: Richard D. Irwin, 1959. Pp. ix; 690. $7.50.

Isard, Walter and others. *Industrial Complex Analysis and Regional Development: A Case Study of Refinery-Petrochemical-Synthetic Fiber Complexes and Puerto Rico*. New York: John Wiley & Sons, 1959. Pp. xvii, 294. $8.75.

Keirstead, B. S. *Capital, Interest and Profits*. New York: John Wiley & Sons, 1959. Pp. ix, 180. $4.00.

Kliese, Eugene S. *Money and Banking*. 2nd ed. Cincinnati, O.: South-Western Publishing Co., 1959. Pp. viii, 726. $6.75.

Kneese, Allen V. *Water Resources: Development and Use*. Kansas City, Mo.: Federal Reserve Bank of Kansas City, 1959. Pp. xi, 68.

Koontz, Harold and O'Donnell, Cyril. *Readings in Management*. New York: McGraw-Hill Book Company, 1959. Pp. ix; 523. $6.50.

Kurnow, Ernest and others. *Workbook to Accompany Statistics for Business Decisions*. Homewood, Ill.: Richard D. Irwin, 1959. Pp. v, 179. Paper, $3.95.

Kuznets, Simon. *Six Lectures on Economic Growth*. Glencoe, Ill.: Free Press, 1960. Pp. 122. $3.50.

Long Range Projections for Economic Growth: The American Economy in 1970. Washington, D. C.: National Planning Association, 1959. Pp. vii, 96. Paper, $2.00.

MacDonald, Lois and others. *Leadership Dynamics and the Trade-Union Leader*. New York: New York University Press, 1959. Pp. xi, 156. $2.50.

Madden, Carl H. *The Money Side of "The Street."* New York: Federal Reserve Bank of New York, 1959. Pp. 104. Paper, 70¢.

McKie, James W. *Tin Cans and Tin Plate: A Study of Competition in Two Related Markets*. Cambridge, Mass.: Harvard University Press, 1959. Pp. xii, 321. $7.50.

McMahon, John J. and Berman, Arnold. *Radioisotopes in Industry*. New York: National Industrial Conference Board, 1959. Pp. 136. Paper, $2.75.

Meriweather, Robert L. (ed.). *The Papers of John C. Calhoun*. Vol. I. Columbia, S. C.: University of South Carolina Press, 1959. Pp. xlii, 469. $10.00.

Nelson, Ralph L. *Merger Movements in American Industry, 1895–1956*. Princeton, N. J.: Princeton University Press, 1959. Pp. xxi, 177. $5.00.

Pierson, Frank C. and others. *The Education of American Businessmen: A Study of University-College Programs in Business Administration*. New York: McGraw-Hill Book Company, 1959. Pp. xx, 740. $7.50.

Pigors, Paul and others. *Readings in Personnel Administration*. New York: McGraw-Hill Book Company, 1959. Pp. xii, 554. $6.50.

Prerequisites for Economic Growth. New York: National Industrial Conference Board, 1959. Pp. 80. Paper, $2.00 for Associates, $10.00 for non-Associates.

Redford, Emmette S. *National Regulatory Commissions: Need for a New Look*. College Park, Md.: Bureau of Governmental Research, University of Maryland, 1959. Pp. 23. Paper, 70¢.

Rostow, Eugene V. *Planning for Freedom: The Public Law of American Capitalism*. New Haven, Conn.: Yale University Press, 1959. Pp. x, 437. $6.00.

Ryan, Robert H. and Schifrin, Leonard G. *Midland: The Economic Future of a Texas Oil Center*. Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. xiv, 125. Paper, $3.00.

Schultz, Charles L. *Prices, Costs and Output for the Post War Decade, 1947–1957*. New York: Committee for Economic Development, 1960. Pp. 82. Paper, $1.00.

Severance Pay Patterns in Manufacturing. New York: National Industrial Conference Board, 1959. Pp. 47. Paper, $2.50 for Associates, $12.50 for non-Associates.

Shoup, Carl S. and others. *The Fiscal System of Venezuela: A Report.* Baltimore, Md.: Johns Hopkins Press, 1959. Pp. xiii, 491. $8.75.

Smith, Harold T. *Equity and Loan Capital for New and Expanding Small Business.* Kalamazoo, Mich.: Upjohn Institute for Employment Research, 1959. Pp. 103.

Solomon, Ezra (ed.). *The Management of Corporate Capital.* Glencoe, Ill.: Free Press, 1959. Pp. 327. $7.50.

Spriegel, William R. *Personnel Practices in Department Stores: 1958 Survey.* Austin, Tex.: Bureau of Business Research, University of Texas, 1959. Pp. 67. Paper, $1.00.

Statistical Abstract, India, 1956–57. New Delhi, India: Government of India Press, 1958. Pp. xii, 856. Rs. 18.00.

Stein, Herbert and Pechman, Joseph A. *Essays in Federal Taxation.* New York: Committee for Economic Development, 1959. Pp. 82. Paper, $1.00.

Stieber, Jack. *The Steel Industry Wage Structure: A Study of the Joint Union-Management Job Evaluation Program in the Basic Steel Industry.* Cambridge, Mass.: Harvard University Press, 1959. Pp. xxiii, 380. $8.00.

The Comparative Study of Economic Growth and Structure: Suggestions on Research Objectives and Organization. New York: National Bureau of Economic Research, 1959. Pp. vii, 201. Paper, $3.00.

Thompson, Wilbur R. and Mattila, John E. *An Econometric Model of Postwar State Industrial Development.* Detroit, Mich.: Wayne State University Press, 1959. Pp. vii, 116. $3.00.

United Nations. *Direction of International Trade.* New York: Columbia University Press, 1959. Pp. 318. Paper, $2.50.

Valvanis, Stefan. *Econometrics: An Introduction to Maximum Likelihood Methods.* New York: McGraw-Hill Book Company, 1959. Pp. xvii, 223. $7.00.

Warner, W. Lloyd and Martin, Norman H. (eds.). *Industrial Man: Businessmen and Business Organizations.* New York: Harper & Brothers, 1959. Pp. xi, 580. $6.50.

Zook, Paul D. (ed.). *Economic Development and International Trade: A Perspective.* Dallas, Tex.: Southern Methodist University Press, 1959. Pp. viii, 134. $3.00.

THE SOUTHERN ECONOMIC ASSOCIATION

Founded in 1927

OFFICERS

President
Fritz Machlup, The Johns Hopkins University

Vice-Presidents
James M. Buchanan, University of Virginia
R. Murray Havens, University of Alabama

Secretary-Treasurer
William H. Wesson, Jr., Louisiana State University

EXECUTIVE COMMITTEE

IN ADDITION TO THE ABOVE OFFICERS

Past Presidents
William H. Nicholls, Vanderbilt University
Howard R. Smith, University of Georgia

Elected Members
Clarence E. Philbrook, University of North Carolina
William D. Ross, Louisiana State University
W. Tate Whitman, Emory University

Managing Editor of the Southern Economic Journal
G. T. Schwenning, University of North Carolina

EDITORS OF PUBLICATIONS

Elected by the Southern Economic Association
Edgar S. Dunn, Jr., University of Florida
John S. Henderson, University of Alabama
Joseph P. McKenna, Saint Louis University
James W. McKie, Vanderbilt University
Howard G. Schaller, Tulane University
Robert S. Smith, Duke University
Carey C. Thompson, University of Texas
Leland B. Yeager, University of Virginia

Appointed by the University of North Carolina
Lowell D. Ashby
Rashi Fein
William N. Parker
Ralph W. Pfouts
Clarence E. Philbrook

CORRESPONDENTS

John E. Altazan, Louisiana State University
Arnold L. Barrett, University of Alabama
H. M. Douty, U. S. Department of Labor
Louis A. Dow, University of Oklahoma
J. Earl Williams, University of Tennessee
Albert Griffin, Emory University
John M. Gunn, Jr., Washington and Lee University
E. E. Liebhafsky, A and M College of Texas
David McKinney, University of Mississippi
James F. Miles, Clemson College
John C. Murdock, University of Missouri
Charles E. Ratliff, Jr., Davidson College
Spencer M. Smith, Jr., University of Maryland
Rodman Sullivan, University of Kentucky
James C. Vadakin, University of Miami
R. E. Westmeyer, University of Arkansas

Membership dues in the Association are: annual $6.00, contributing $15.00, life $100.00, institutional $100.00, student $3.00. Membership fees include payment for a year's subscription to The Southern Economic Journal. Applications for membership should be addressed to William H. Wesson, Jr., College of Business Administration, Louisiana State University, Baton Rouge, Louisiana.